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Consumer BULLETIN

The Original Consumer Information Magazine
Testing and Reporting on Products since 1928

TESTS OF

ELECTRIC SHAVERS

Small radios

Ice skates

Xmas tree lights

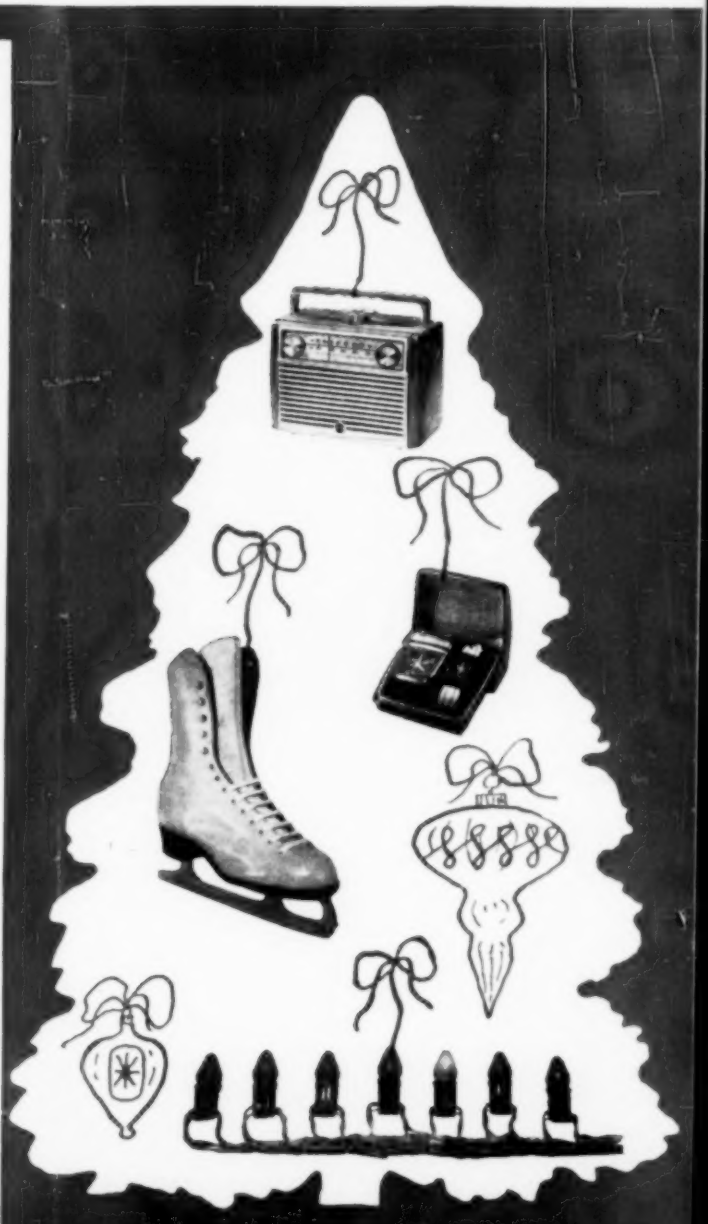
SNOW TIRES

Stereophonic sound—
a new kind of High Fidelity?

Air travel

Boys' knitted shirts

Rambler American—
a report of further tests



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CONTINUED ON PAGE 3

Ewing Galloway

Christmas tree lights

THE QUALITY of many of the strings of Christmas tree lights has improved greatly in recent years. Gone, fortunately, is the fabric-over-rubber insulation which pulled back and left bare copper wires exposed at the lamp sockets, creating a fire and shock hazard. Today's lights have good-quality rubber- or plastic-covered wires, and sockets of better and safer construction. It will usually be best to discard old-fashioned strings that have been around for years and replace them with modern strings of lights of good quality.

In the better sets, in which the lamps are wired in parallel (multiple), each socket receives its current independently of the others in the circuit so that if one or two lamps burn out the rest of the lamps in the string are not affected, and remain lighted.

The cheapest strings of lights have the sockets wired in series. With this type of wiring, when a single lamp burns out all the lights along the string go out. (An exception is the new midget-base series-wired strings which use lamps with a built-in electrical connector to maintain the circuit when they burn out.) Finding the burned-out lamp in a regular series string by removing each lamp from its socket, one at a time, and replacing it with a lamp known to be in good condition is a time-consuming and frustrating experience; all too often the burned-out lamp is one of the last ones to be tested. On this account, we do not give a higher rating to a series-wired set than *B. Intermediate.*

Types of lamp bases (see Figure 1, p. 30)

Miniature base. Used in series-connected strings. About 4 watts per lamp. Not more than 10 strings of eight lamps each should be connected together.

Candelabra base. Used mainly in multiple- (parallel-) wired indoor strings. About 6½ watts per lamp. Not more than 50 lamps or seven strings of seven lamps each should be connected together.

Intermediate base. Used in multiple-wired outdoor strings. Ten watts per lamp. Not more than 60 lamps should be connected to one outlet (eight strings of seven lamps each).

In addition to the above most common types, there are now available extremely small (midget-base) lamps with glass bulbs only about 3/16 inch in diameter and ½ inch long, tapered to a point; these we may call midget bulbs.

Novelty lamps

Twinkle lamps (so-called). Each lamp has a built-in thermostatic device which causes the several lamps to be turned on and off independently of each other at short intervals, creating an interesting effect.

Bubble lamps. In these, a colored liquid (methylene chloride or other low-boiling-point chlorinated solvent such as chloroform) is heated at the bottom of a sealed glass tube; bubbles rise in the tube from the source of heat, introducing an element of motion as well as color into the lighting. Unfortunately, the chemicals used are toxic and dangerous when taken internally—as they sometimes are by little children, who often delight in breaking and biting attractive objects. Bubble lamps, if used, should therefore be placed high on the tree out of the reach of small children, and of course stored where young children cannot have access to them.

American-made, or Japanese-made bulbs?

In the series-wired sets, it was found that the Japanese bulbs had a relatively short life—only a fraction of that of American-made bulbs. In the multiple-wired indoor candelabra-base sets, the average life of American-made and Japanese-made bulbs was about the same. Of the outdoor lights, the Japanese bulbs were found to be superior to those made in the United States. It is unwise to buy any strings or sets of Christmas tree lights which do not show the manufacturer's name and address, the *UL* label, and instructions on the box or a tag regarding the number of strings which can safely be connected together.

All of the lighting sets tested except the Italian

(*Continued on page 30*)

The Consumers' Observation Post

CHRISTMAS TREES this year can be bought on the basis of government grades. Last year, for the first time, the standards were published for Christmas trees, including Douglas fir, balsam fir, black spruce, red cedar, white spruce, and Scotch pine. The grades are: U.S. Premium for trees that are straight, symmetrical, evenly tapered to the top, fresh, clean, healthy, and with well-filled branches; U.S. No. 1 for trees that just miss premium specifications; U.S. No. 2 includes trees with sparse foliage. Whether the tree is graded or not, select one of good shape, strong clean limbs, and green foliage, a tree that is freshly cut. When you put it up, stand it in a pan of water, away from radiators and heat sources.

* * *

THE BAIT-ADVERTISING TECHNIQUE of offering "free" photographs, particularly to proud parents of new-born babies, is one of the oldest rackets in existence. The Better Business Bureau of Philadelphia has issued a little pamphlet which lists the various techniques used to hook the unwary customer, including fake samples with beautiful photographs that are higher in quality than those to be delivered, personality contests which are usually mythical, sending photographs C.O.D. thereby requiring the customer to pay before he has had an opportunity to examine them, and coupon offers--supposedly good for one or more pictures free--which usually involve a large order before the "free" offer will be filled. One Philadelphia newspaper has been running a series of articles on the sad experiences of victims of high-pressure selling by photographic operators. One, whose husband had just been laid off from work, was billed for $50 for a photograph colored and framed that she hadn't meant to order, but for which she was induced by devious means to sign an installment contract. Consumers will be well advised to deal with an established, reputable photographer in their community, whenever they want portraits taken.

* * *

USE CHEESECLOTH, rags, or disposable paper towels for dusting and dirty cleaning jobs. The American Institute of Laundering points out that terry cloth towels and washcloths used for housecleaning may be stained with grease and heavy dirt that are difficult to remove even by the best laundry methods.

* * *

JUST WHAT IS AN ENGINE TUNE UP? The modern automobile engine is so complex that a regular tune up by an expertly trained mechanic should be made every 5000 miles. Carburetors should be cleaned and adjusted with a compression check of all cylinders. Spark plugs and connections should be cleaned. The battery should be checked. All ignition wiring and cables should be inspected for loose connections, for abnormally high resistances, for wear and corrosion. The distributor points and condenser may need to be replaced. And don't overlook checking the fuel pumps and fuel filter. All of these items and more should be gone over at regular intervals if the family car is to give the performance expected of it, according to a little leaflet put out by Carter Consumer Service, Carter Carburetor, St. Louis 7, Missouri.

* * *

SAFETY GLASSES are recommended by the California State Department of Health for all school children. There are two types: those with lenses of hardened glass and those of plastic. Although the non-shatterable glasses are somewhat high in cost, this disadvantage is offset by the elimination of breakage while children are on the playing field, in the gym, and engaged in other activities. The danger of disability from injuries to the eyes that may result if the lenses are broken while being worn is greatly diminished.

READY-TO-EAT CEREALS are taking on a new flavor. Not only are there sugar-coated cereals, but chocolate-flavored cereals are being tried out in certain sections by General Mills, particularly in Canada. Strict regulations on labeling and health claims, however, make it impossible for General Mills to make any vitamin claims on their Cocoa Puffs in Canada.

* * *

HOUSEHOLD CHEMICALS THAT CONTAIN POISON have been required to have their essential ingredients registered with the Indiana State Board of Health, since January 1, 1958. The objective is to reduce the number of deaths, particularly of children who swallow some common household product containing poison or ingredients that are harmful when consumed by human beings. Each product will be assigned a registration number. It is expected that the physician with a patient who has inadvertently consumed such a product can telephone the state board of health and within a matter of a few minutes have information on the type and quantity of the poisonous ingredients, so that he can quickly administer the effective antidote.

* * *

PRECOOKED FROZEN FOODS are increasing sanitation problems. In a study made in Canada of such items as "TV dinners," meat, fish, and poultry pies, and cooked frozen dessert pies, it was discovered that a substantial proportion of 117 specimens were sufficiently high in bacteria to indicate a probability of quality deterioration and a high degree of contamination from human or animal sources. According to this study by A. Doreen Ross and F. S. Thatcher, of the Food and Drugs Division at Ottawa, Canada, high standards of sanitation in the manufacturing of such foods are called for, as well as better care in transporting them for sale. It is possible, of course, that thorough heating of the foods before they are eaten may act as an important factor in prevention of food poisoning or illness from their use.

* * *

THOSE FACED WITH THE PROBLEM of securing artificial dentures need psychological preparation for successful completion of the job. Professor Raymond J. Nagle, of the New York University College of Dentistry, has pointed out in The Journal of the American Dental Association that the patient must realize that checkups are required from time to time after the denture is placed. He noted that there will be a number of adjustments necessary before real comfort is attained; that there is considerable change toward better functioning of the denture even during the period of a few days; and that speech difficulties will be of short duration.

* * *

IN PICKING TOYS FOR CHRISTMAS, avoid those with small projecting parts that come off easily and may be swallowed by youngsters too young to realize the possible serious consequences of their act. Such items, when swallowed, are not readily observable by diagnostic X-ray examination.

* * *

CURTAINS THAT HAVE NO VISIBLE SIGN OF DAMAGE when they go to the dry cleaners sometimes come back in shreds. It may not be the dry-cleaning process, but some of the many other factors that cause such fabric deterioration, suggests the National Institute of Drycleaning. Destructive agents include direct and indirect rays of the sun, humidity in the atmosphere, temperature of the air, concentrated heat from radiators and registers, gases in the atmosphere, and soot, dirt, soil, and grime. The N.I.D. points out that deterioration from the sun's rays is several times as rapid in summer as in winter. Light causes deterioration of all fabrics except Fiberglas. Moisture from water condensed on the windowpane or seeping through cracks and crevices around the window frame, along with heat from registers and radiators, accelerates deterioration of fabrics exposed to light. According to the N.I.D., the more durable fabrics for use in curtains include Fiberglas, Dacron, and cotton.

(The continuation of this section is on page 35)

Consumer Bulletin

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When asking for a change of address, the subscriber should give the old address as well as the new one. Be sure to include a postal zone number if your city has been zoned. Allow five weeks for the change to become effective.

Listings usually are arranged in alphabetical order by brand name (not in order of merit) under each quality or performance rating. A numeral 1, 2, or 3 at the end of a listing indicates relative price, 1 being low, 3 high. Where the 1, 2, 3 price ratings are given, brands in the 1, or least expensive group, are listed alphabetically, followed by brands in price group 2, also in alphabetical order, etc. A quality judgment is wholly independent of price.

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Ice skates

THE sport of ice skating is enjoying a big upswing in popularity. As artificially-frozen rinks are opened in increasing numbers, this healthful recreation is becoming widely available, even to many persons who live where prevailing temperatures do not permit skating on natural-ice surfaces. There are some 300 mechanically-frozen rinks in the United States, and new ones are being set up at such a rate that there will surely be twice that number in a few years. (A list of rinks, geographically arranged, may be found in the Annual World Ice Skating Guide, available for $1 postpaid from National Sports Publications, Inc., 7 Park Ave., New York 16.)

Three distinct types of skates are available—figure, hockey, and racing—each designed for a specific purpose. The long blades of racing skates may be dangerous to other skaters under crowded conditions. Thus outside of actual competition, their use must generally be limited to uncongested areas such as ponds, lakes, or large rinks during special or uncrowded periods. Both hockey and figure skates are commonly used for general "skating for fun." In years past, it was customary for boys and men to use hockey skates, while girls and women wore figure skates. This pattern is rapidly changing. Today, a boy using figure skates is by no means considered a "sissy"; in many localities, he would be the rule rather than the exception. Nowadays figure skates are about equal to hockey skates in national sales, but in some areas very few hockey skates are sold except specifically for playing hockey.

The height of a figure skate blade (distance from the blade edge to the plates for attachment to the shoe) is less than that of a hockey or racing blade. For this reason, the skater's foot is a little closer to the ice, and it is easier to maintain balance, with reduced strain on foot and leg muscles. The shoes—or "boots" as some aficionados like to call them (the manufacturers often say just "shoes")—of figure skate sets are soft and, if properly fitted, conform more snugly to the foot than is possible for shoes with hard box toes that are attached to hockey skates. For these reasons, and since experts advise figure skates for beginners and average skaters, Consumers' Research has examined and tested figure skates only, for the present report.

Importance of proper fitting

Many skates are sold in stores where they are a minor and seasonal item, for the most part dispensed by clerks without specialized or dependable knowledge of skating. Consequently customers are very often poorly advised in the choice or fitting of skates. Probably the most widespread bit of bad advice is to buy skates about a size larger than street shoes, so that they will be comfortable with a pair or two of heavy socks. As a matter of fact, when properly fitted, the average adult will often be wearing a skate shoe that is one size smaller than his street shoe.

Skates should always be tried on and carefully laced up before buying. The opening over the tongue between the lacing eyelets should be not

←

A portion of the Branch Brook Recreation Center Outdoor [illegible] Rink in Branch Brook Park, Newark, New Jersey. Photograph by courtesy of the Essex County Park Commission.

less than one inch wide when the new skates are laced tight. On the other hand, the spacing should not be so wide as to defeat the purpose of the tongue and lining designed to protect the instep.

Fitting of adults should be done while they are wearing thin socks. The leather will stretch with use, and if the shoe selected is comfortably roomy when new, it will be too large after it is broken in. In the case of a rapidly growing child, it is sometimes practical to fit skates with extra insoles over slightly heavier-than-usual socks, so that the child may wear the same shoes later on with lighter socks after removing the temporary insoles. A special type of rubber ankle supporter can also be used to provide initially a sufficiently snug fit around the youngster's heel.

The importance of correct fitting cannot be overemphasized. The most expensive outfit is of little use if it does not fit the foot. When skates are too large, there is very little support from the shoe and a person is inclined to think he has "weak ankles." In order for the shoe to provide maximum support, it should be as snug as one can comfortably stand. The laced-up shoe must hold the heel firmly, so that it cannot lift up or move around in the shoe. Toes should be free enough to flex and to permit good circulation. (In *very* cold weather, one should loosen the laces promptly when not actually skating, to lessen the risk of frozen feet.) A person who has an unusually wide, narrow, or otherwise very non-standard foot may find it necessary to get a more expensive shoe which is offered in a choice of widths. When the feet are very hard to fit, or the skater expects to take up the sport seriously, it may sometimes be advisable to buy custom-made shoes.

Figure 1
The three common types of ice skates.

General information concerning figure skates

1. The better quality skate shoes are leather lined; the ordinary kinds are cloth lined or have no lining at all. A leather lining strengthens the shoe and provides additional comfort and support.

2. It is generally agreed that good shoes are more important than good blades for anyone learning to skate. (An adequate, sufficiently rigid blade is relatively simple to manufacture, but a shoe requires careful design and construction in order to provide good support.)

3. Blades of cheaper skates are usually riveted to the shoes by mass-production methods, while those of better models are generally attached with screws to the heels and to thick leather soles. The purpose and advantage of screw attachment is that blades may be moved or set differently on the shoes if desired. Rather expensive shoes and blades are also offered separately, in a choice of combinations, to be attached according to the user's preference.

4. All of the figure blades have teeth at the forward tip, more or less like those of skates for experts, who use them for spinning and jumping. Beginners are apt to trip over the prominent lowermost tooth if it digs into the ice when the skater's weight gets too far forward. Since the teeth are not intended to be used in ordinary skating maneuvers, it is sometimes advisable (particularly for those beginners who are not likely ever to wish to use the teeth for figure skating) to grind down the lowest tooth and thus reduce the likelihood of tripping and a bad fall.

5. Competent sharpening is a rare service. One should be wary of hardware stores and other shops that sharpen skates on grinding machines designed for other purposes. Considerable harm can be done to a good pair of blades by inexpert sharpening. Expert sharpening service may often be found in shops devoted to ice skates only; such shops are often found associated with rinks. If a shop that specializes in sharpening skates is not available, seek the advice of experienced skaters. Figure skates are generally hollow ground; there may be a slightly higher charge than for flat grinding. Don't try to save a few cents on sharpening; it is worth while to pay for the services of an expert workman if you can find one, and accept his advice on how your skates should be sharpened.

Ice skates can be obtained at a wide range of prices. As with most commodities nowadays, there are few fixed or "list" prices, and what you may pay for a given pair of skates is likely to vary a great deal, depending on the type of store, the season, and other factors. In looking for possible "bargains" in skates, keep in mind what has been said earlier in this article about the need for expert knowledge and intelligent service in fitting skate shoes. Skates that do not fit properly are not a bargain at any price.

Good-quality skate sets of the sort that will serve for those who take up the sport fairly seriously are likely to cost in the neighborhood of $25, at least. Professionals, and amateurs who take part in formal competitive skating, often spend $60, $100, or even more for custom-fitted shoes and attached blades. The beginner, of course, does not need to spend so much, but he should not look for a "bargain" at $7 or $8, either. One who buys a pair of cheap and poor skates "to try it out" is likely to have one of two experiences. He may have such difficulties because of the skates that he despairs of learning, gives up, and loses the enjoyment of skating. On the other hand, if the handicap of poor skates is overcome, and the new skater progresses in skill, he will soon recognize the need for better equipment. In either case, the initial investment turns out to be a loss rather than a saving.

Consumers' Research included only *men's* figure skates in the current study. Our shoppers found in general that for each man's model of a given manufacturer, there was an essentially identical woman's style offered at the same price; thus it was felt that it would be needless duplication to test both men's and women's skates. Women's skate shoes are, of course, usually white instead of the black intended for men, and are generally narrower in corresponding sizes.

Several of the pairs of skates tested were not labeled by brand or with the names and addresses of their makers. Most of the skates were not marked with style numbers. All were identified to some extent on the boxes in which they came, and the clerks who sold the skates assured CR's shoppers that the skates in each box were the ones described on the labels. To the extent found possible, the presumed identity of each pair of skates was verified by comparison with descriptions and pictures in manufacturers' literature; it is strongly believed that all the listed skates were correctly identified. If any error has been made, it must be charged to those manufacturers who choose not to label their products clearly with their names and addresses.

A special element of confusion arises, incidentally, in the labeling of skates because in most cases the shoes and blades are made by different manufacturers. It is the usual, but not invariable, practice in the industry for the *shoe* manufacturer to buy blades, attach them to his shoes, and then market the assembled product. Thus the name, if any, on the blades may sometimes not be the name of the firm responsible for the assembled skates.

The prices given in the following listings are those at which store clerks stated that the skates were regularly sold before and during the skating season. Several of the samples were actually bought by CR's shoppers at much lower prices during post-season "close-out" sales.

The wise consumer will not give much credence to claims of "cut" prices or alleged "discounts" from "regular" or "list" prices—unless he knows for a fact that exactly the same product was *regularly sold* competitively at the higher price. Many stores make a frequent practice of marking merchandise with artificially high prices without any expectation or intention of actually selling any quantity at these prices. After a short period on the shelves, the product is offered with much fanfare at a "greatly reduced" price—which is, in fact, an ordinary, routinely set price at which the retailer realizes his usual rate of profit. Often, too, a retailer will dispense even with going through the motions of establishing a high price from which to offer reductions. He will just claim that his price is less than the product was "made to sell for," or less than an imaginary "regular" or "list" price, or will mark the package

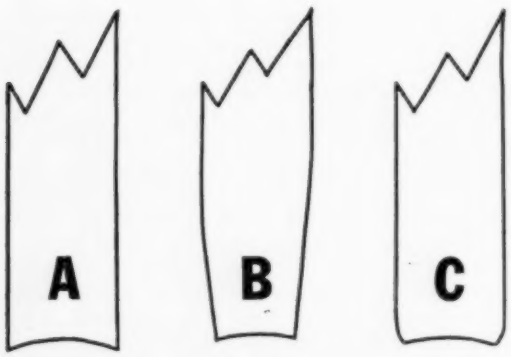


Figure 2

The sides of a skate blade should be parallel, all the way down to the sharpened skating edges, as shown in the enlarged cross-section sketch at A. Through carelessness in finishing operations (probably while burrs or ragged edges of plating are being removed from the skating edges), the sides of the blade may be ground as at B or even rounded off as at C. A blade such as shown in B or C would be harder to sharpen, would take a poorer edge, and would not stay sharp as long as a blade properly finished, as shown in A.

Figure 3

The "price pack" is used on skates as on cars, appliances, and many other items. The Ice Wing skates bought by CR at a "cut-rate" sporting goods store were marked so as to imply price reduction from a "regular" $12.50 to a "special" of $9.95. But the manufacturer's literature for the trade shows that the highest-priced pair of Ice Wings is designed to sell for "$9.95 at retail with a full markup."

in such a way as to imply a price reduction (see Figure 3).

The buyer of skates or any other commodity is best advised to assume, in the absence of definite personal knowledge or evidence to the contrary, that the prices at which things are being sold are their usual and regular prices. An intelligent shopper simply disregards most claims that special bargains or discounts are being offered.

In the listings below, the skates are arranged by brand name in alphabetical order within the *A*-, *B*-, and *C*-rated groups.

A. Recommended

Brooks 76M (Brooks Shoe Mfg. Co., Philadelphia 4) $15.95. *Shoes:* unlined, but well made. *Blades:* marked "Brooks All American," good quality, fairly well sharpened as received.

C.C.M. 38 (Canada Cycle & Motor Co., Ltd., Toronto 15; U.S. distributor, C.C.M. Inc., Buffalo 10) $23.95. *Shoes:* made by Riedell; good quality, leather lined. *Blades:* marked *Pathfinder*, made in Canada, attached with screws (desirable, see text), well finished, sharp and of good quality, but as received, were ground too flat for best results. Resharpening to the correct hollow form would be desirable.

Hyde 2455C (Hyde Athletic Shoe Co., Cambridge 41, Mass.) $18.50. *Shoes:* well made, but unlined. *Blades:* screw-attached (desirable, see text), good quality, well sharpened as received.

Hyde 2718S (Hyde Athletic Shoe Co.) $25. *Shoes:* very good quality, leather lined. *Blades: MK* (Single Star), made in England, screw-attached, good quality, well sharpened as received.

Planert 710CX (Planert Skate Co., Chicago 22) $21. *Shoes:* good quality, leather lined. *Blades:* marked *Collegiate*, good quality, fairly well sharpened as received.

B. Intermediate

Aerflyte 292L (Roller Derby Skate Co., Litchfield, Ill.) $17.95. *Shoes:* well constructed, leather lined (but lining is so smooth that it allows the foot to slide a little too freely). *Blades:* marked *Supreme* (decal), excessive bevel on edges (see Figure 2), not well sharpened as received.

Basco 790 (Boston Athletic Shoe Co., Cambridge, Mass.) $14.95. *Shoes:* only fair construction, fabric lined. *Blades:* marked *"Everest.* Made in England. Sheffield Steel." Good quality, fairly well sharpened as received.

C. Not Recommended

Aerflyte 290B (Roller Derby Skate Co.) $11.95. *Shoes:* unlined, tongue lining too narrow, otherwise of fair construction. *Blades:* excessive bevel (see Figure 2), not well sharpened as received.

Canadian Flyer 6004 (Union Hardware—Sealand, Inc., Torrington, Conn.) $13.95. *Shoes:* made by the Springfield Co., fabric-lined, leather soles judged too thin, tongue construction not satisfactory, cloth lining of tongue provides insufficient padding effect, construction not of a quality up to some of the better skates. *Blades:* As received, edges were slightly rounded (see Figure 2), not well shaped and finished.

Ice Wing 190 (Boston Athletic Shoe Co.) $9.95. *Shoes:* not well constructed; the shoe has eyelets all the way up instead of lacing hooks at upper part. *Blades:* poorly finished, steel too soft, skating edge not true, rough cross-grinding. Hazardous as received, because of rough edges which caught on ice and tended to trip skater.

Rink Leader 7310 (Gotham Shoe Mfg. Co., Inc., Binghamton, N.Y.) $12.95. *Shoes:* Fair quality, unlined; tongue, tongue lining, and insole of unsatisfactory quality. *Blades:* Steel insufficiently hard. Poorly sharpened as received, with rough burr remaining on edges.

Men's electric shavers

Tests indicate that any make will shave, but time will tell the quality of shave—the shave that is passable in the morning may not look good in the afternoon

THERE isn't anything that can make shaving a pleasure for most men. An electric shaver can, however, reduce the inconvenience and the total time to shave. To serve satisfactorily, an electric shaver should shave reasonably close, without irritation, in a matter of a few minutes, and be cleaned easily and quickly. It should also not require frequent servicing, sharpening, or replacement of cutters or heads.

No one electric shaver can be classified as the best for all users. Beard pattern and skin type differ among individuals and call for different sizes, shapes, number, and arrangement of guard apertures. (See Figures 1, 2, and 3.) However, the particular characteristics and findings reported in this article for each shaver will be found generally applicable by the majority of users of electric shavers.

What users said about each shaver

In CR's test, a panel of men shaved daily over a period of several months using in turn each of the shavers tested and reported their opinions of each shaver, as well as by comparison with a reference shaver. Each panel member himself owned and used at least one electric shaver for his daily shaving so there was no problem of adjusting to an electric shaver. Listed here are summaries of the comments most frequently made by the panel members about each shaver.

Bulova—Quiet in operation, good shave, completely free from skin irritation, but head gets warm. Shaver is slow and the smell of ozone is noticeable and somewhat objectionable. The trimmer is difficult to use, and because of its location there is a tendency to dig into one's ears.

Norelco—Quiet in operation, gave a good shave on sides of face, but action was very slow; free of vibration and skin irritation; more than normal difficulty in trimming sideburns and shaving under nose. Cord keeps coming loose from shaver while shaving—a nuisance.

Remington—Noisy and vibrates in operation; good shave, but missed scattered areas on neck. Can't quite reach crease under nose unless the plastic guard is removed—it's a bother to do this.

Ronson—Very good, close, fast shave. Trimmer is convenient to use for removing long hairs and trimming sideburns. Shaver vibrates. The "on-off" switch is handy and desirable.

Schick—Noisy, somewhat bulky to hold, relatively slow. Shave is satisfactory, but the shaver missed long hairs lying against skin, and hollows under the jawbone were not shaved too well. Had trouble getting shaver started.

Sunbeam—Good shave, but the shaver was noisy and bulky. It was difficult to shave crease under nose, and protruding ends on shaving head interfered with shaving of sideburns. Shaver head gets warm.

Shaving the beard

The test revealed that each shaver was capable of removing the hairs and giving the appearance of a close shave. The closeness of the shave, however, is important, for it determines how long the shave will last before it becomes necessary to shave again. Certainly, if the average man's beard begins to show within a few hours after shaving is completed, the shaver hasn't done its job. If, however, after a period of 12 hours or more the beard has not appeared prominently, the shaver can be judged to have given a "close" shave.

Figure 1

Figure 2

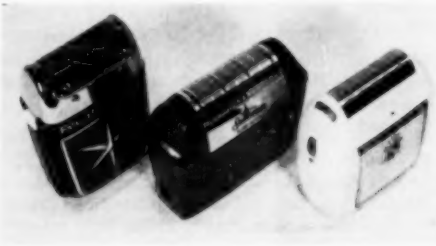


Figure 3

CR found that shaving times differed appr ably between the faster and the slower shave based upon each being used to give its best resul Average shaving times taken by panel memb were as follows: 4 minutes for *Remington*, *Ronso* and *Sunbeam;* 5 minutes for *Bulova* and *Schic* and 6 minutes for *Norelco*.

At a glance, the difference between 4 and 6 minutes does not appear to be great, but that extra minute or two in the morning or when in a hurry can often mean the difference between a fair shave or a good shave, or between a hurried breakfast and a more leisurely one.

The performance of most electric shavers depends on the voltage supplied. The *Ronson* shaver will operate only on alternating current, but its operating principle is such that normal differences in voltage will not affect its cutting action through changes of speed. The other shavers will operate on either alternating or direct current, but they operate at significantly slower speeds when the voltage is below normal. The following table gives the speeds (operating cycles per minute) at which the shaving cutters operated at the normal 115 volts and at the below-normal voltage of 100 volts (which may exist in some homes, at times).

Shaver	115 volts	100 volts
Bulova	7,200	6,000
Norelco	5,100	4,400
Remington	9,300	8,400
Ronson	15,000	15,000
Schick	9,400	8,900
Sunbeam	9,200	7,500

Besides removing the beard on the face and neck, a shaver should be able to trim sideburns, and should conveniently and effectively remove long, stray hairs. In this connection, only two shavers, *Bulova* and *Ronson* (see Figure 4), were equipped with trimmers. Both trimmers were found effective, but that on the *Ronson* was judged most convenient for all-around use. Removal of the plastic guard from the *Remington* exposes the edges of the cutting head, which permits use of the shaver for trimming even though no special device is included for that purpose (see Figure 5).

Figure 1—Norelco has two flat heads and uses two rotary cutters; both cutters spin around.

Figure 2—Ronson has a curved head, and its cutters use a reciprocating action. Sunbeam and Bulova have curved heads and use an oscillating action in which the blade or blades, respectively, sweep an arc.

Figure 3—Remington and Schick have flat heads and use reciprocating cutters which move from side to side or end to end.

Cleaning and care

Regular cleaning and servicing of a shaver contributes in an important way to the shaver's performing at its best. How easily the cutting blades and hair pocket of a shaver can be cleaned of excess hair and skin will very often determine how often the job is done by the owner; if it is not done often enough, performance falls off. In this respect, all the shavers were satisfactory; the *Sunbeam* perhaps was the least convenient to clean. However, some shavers require additional care from time to time to maintain shaving effectiveness. Bulova suggests that the shearing head be removed about once a month to permit cleaning the cutting blades. This operation proved difficult, for attempts to open the metal side clips as directed in the instruction booklet resulted in broken fingernails. Even when one succeeds in removing the shearing head, there might be a further problem in replacing one or more wire tension springs that hold the blades in place, springs which can be loosened accidentally while the blades are being brushed. *Norelco* directions suggest that once a week the cutters should be removed and cleaned. This routine is not difficult to carry out but takes time—time many owners never find—and unless this is done regularly, shaver efficiency *will* fall off.

The *Schick* presents a different and even greater problem to its owners. Daily cleaning is as simple as on any shaver, but the "once-a-week" and "occasional" cleanings are not so simple and quick. The instruction book advises that "to keep it in perfect running condition" one should, once a week, put a drop of light oil on the finger tip and rub over shaving heads while the motor is running. The instruction book continues, "occasionally remove head from shaver and clean parts with brush. Remove inner shaving heads and clean all parts with brush—and grease the bottom surface of the inner cutters with Schick Lube or petroleum jelly. . . .When reassembling be sure to match marked ends."

The *Remington* shaver requires little attention beyond the regular cleanings with the little brush, but it is suggested in the instruction booklet that every six to nine months—more frequently if necessary—the shaver be brought or sent to a Remington Service Station for a complete cleaning. Such servicing will run to additional expense. The booklet, however, explains how the owner himself can do the job if it is not convenient to have it done by a service store.

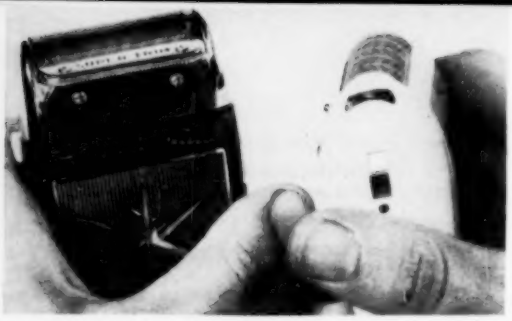


Figure 4—Ronson and Bulova are equipped with separate trimmers for trimming sideburns and long stray hairs.

Figure 5—Trimming of sideburns, etc., can be done more conveniently with the Remington by removing the plastic guard.

Ronson suggests that a drop of ordinary household oil be applied to the cutting teeth of the trimmer every three months. No additional care is required for the shaving head or cutter beyond regular brushings with the brush supplied.

Something to remember, when buying a shaver

Any electric shaver will, in time, need to have the cutter and head replaced. This is often overlooked when the shaver is bought, but it's worth while to check into the problem *before* making the purchase. Replacement cost of complete cutter and head assemblies will vary over a surprisingly wide range, depending on the make, from $3.25 for the *Ronson* to $13.50 for the *Remington*.

In a coming issue of CONSUMER BULLETIN, there will be a report of a test on non-electric and battery-operated shavers of makes other than the well-known brands of electric shavers covered in this report.

A. Recommended

Ronson CFL (Ronson Corp., Newark 2, N.J.) $28.50. Weight, 10 oz. A.c. only. Performance not affected by low voltage. No radio or television interference. Only shaver in group with a positive and clearly marked on-off switch.

* * *

The following two shavers (listed in alphabetical order) gave good shaves but were judged to be somewhat less satisfactory than the *Ronson*.

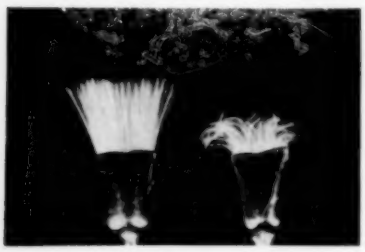


Figure 6—Before and after: A relatively few cleanings wore down the Sunbeam brush so that it was almost useless.

Remington Rollelectric (Remington Rand Inc., Electric Shaver Div. of Sperry Rand Corp., Bridgeport 2, Conn.) $32.50. Weight, 11 oz. Ac-dc. Produced noise on the radio and there was a trace of television interference. Temperature of head satisfactorily low after 15 min. of running but body of shaver became hot. CR has received letters from its readers over a period of years which indicate that service charges for repairs and parts have been abnormally high for work done on *Remington* shavers at authorized service stations.

Sunbeam Golden Glide (Sunbeam Corp., Chicago 50) $32.50. Weight, 10 oz. Ac-dc. Noisy on radio, and slight television interference. Shaver was somewhat less convenient to clean daily than others, and ran warm during normal shaving. Quality of brush for cleaning shaver was poor; bristles wore down after being used only relatively few times (see Figure 6). Supplied with tube of sharpening compound for occasional sharpening of cutter. Shaver head and body became uncomfortably hot after 15 min. of running.

B. Intermediate

Bulova (Bulova Watch Co., Inc., Bulova Park, Flushing 70, N.Y.) $35. Weight, 10 oz. Ac-dc. Noisy on radio, and objectionable television interference. Gave a good shave but somewhat slow, and emitted a strong smell of ozone while running (undesirable); ran warm during normal shaving. Head became uncomfortably hot after 15 min. of running.

Norelco Speedshaver (North American Philips Co., Inc., Norelco Shaver Div., New York 17) $24.95. Weight, 9 oz. Ac-dc. No radio or television interference. Cord came loose from the shaver repeatedly. Gave a good shave but action was judged slow.

Schick Powershave (Schick Inc., Lancaster, Pa.) $31.50. Weight, 11 oz. Ac-dc. Noisy on radio, and there was a trace of television interference. Tendency to miss stray hairs, particularly on neck area or hairs lying flat against the skin. Had combined switch-and-starting device; unless completely depressed in on position, shaver would not start, a nuisance. Head and body became uncomfortably hot after 15 min. of running.

Boys' knit shirts

THE wardrobe of a boy of school age is like nowadays to include one or more knit shirts. In fact, a study made by Iowa State College a year ago showed that a great many boys interviewed in a limited area of that state wore knit shirts to school. Researchers there found out that the boys, when selecting knit shirts, appeared to use color and style as the basis for their choices. The mothers, on the other hand, seemed to be concerned about whether or not the shirts would hold their shape reasonably well.

Although some children develop physically very rapidly and outgrow clothes before they may be worn out, most mothers expect children's clothes to take hard wear. They would expect them to hold up at least through a school year, or even longer. They would, of course, also like to have any boy's shirt fully washable without need to use special care.

Consumers' Research in its present study purchased a number of boys' knit shirts in size 10 and subjected them to a variety of laboratory tests to indicate their probable performance in use. A good shirt, it was felt, to come up to a homemaker's reasonable expectations, would not fade or "bleed" color badly, would not shrink or stretch out of shape, change greatly in feel or "hand," or come apart at the seams.

Keeping in mind the standard of appearance mothers would likely expect of their children's clothes, we recognized that clothing worn by active children becomes soiled enough that thorough washing is needed. Clothing that is sturdy enough to give reasonable wear should be able to stand machine washing, and since perspiration and stains are a factor, the machine washing should be at the "hot" setting of the automatic washer.

The laboratory study included an examination of the garments, something that could be done in some cases when the garment was purchased, though not in all. Shoppers found that boys' shirts, like a good many other textiles nowadays, are often packaged in little plastic bags. The bag keeps the garment clean and fresh looking and has a lot of advantages, but it does prevent, or at least greatly hampers, any inspection of the shirt before one buys it. Mismatched stripes, for example, which make for an untidy appearance, can be checked *if* the shirt can be opened out and looked at in all its parts. If the fabric is not straight in the shirt to start out with, it is never going to be, and the garment may be uncomfortable as well as unattractive when worn. Shirts with a knitted tape across the shoulder seams or with a tape stitched in with the seams at the shoulders may be expected to hold their shape in this area better than shirts having seams that are not reinforced in any way.

Laboratory tests were based on the proposed American Standard Performance Requirements for Men's and Boys' Knitted Sportswear Fabrics. The garments were washed three times in an automatic washer at 160°F, with no bleach added to the wash water. Drying was done in an electric clothes dryer. Most of the fabrics did not change substantially in character of "hand" or feel and appearance as the result of these launderings.

On the other hand, all of the fabrics shrank more in one or both directions than the amount (5 to 6 percent) allowed under the standard. This is a common failing with knit goods, and women in general adjust to it by buying garments a size or two larger than normally required, in order to allow for high shrinkage. Accordingly, Consumers' Research judged that a knitted shirt should not shrink or elongate more than 12 percent in either measurement.

The color loss of the shirt fabrics and amount of staining of other fabrics caused in laundering the shirts was checked by use of a sample of test fabric containing six common textile fibers, attached to a sample of the shirt fabric. Two series of washings were done: one at 160 degrees for 45 minutes to simulate the color loss and abrasive action of five home launderings; the other at 140 degrees for 10 minutes. During the accelerated test a marked degree of bleeding of color was found on a number of shirts. Details of these results appear in the listings. During the second test, however, only two shirts bled appreciably. Since in the home automatic washer,

water temperatures at the hot setting are not likely to be higher than 140 degrees during a wash period of about 10 minutes, only these two shirts would be likely to cause trouble in the family's wash if they were washed with white or light-colored articles. Only one shirt lost color sufficiently to affect its appearance.

The fabrics of all the shirts were strong enough to pass the minimum requirements. The boys' knitted shirts are listed in alphabetical order within the *A*-, *B*-, and *C*-rated groups. All shirts tested were made of cotton except the *Academy* which was made of *Acrilan* fiber.

A. Recommended

Sears Boyville (Sears-Roebuck's Cat. No. 43—4246) $1.40, plus postage. Red and gray with two pattern stripes. Crew neck. Staining of test fabrics was within limits permitted by the standard. One of the strongest fabrics of the shirts tested. Shrinkage: 9% in length, 6% in width. No significant distortion of shape of the garment. This was the best all-around shirt of the group tested.

B. Intermediate

The following four shirts did not give good performance in one or the other of two tests: the test for color transfer at 160°F or the test for distortion of the garment.

Academy (Academy Creations Inc., Bound Brook, N.J.) $2.98. *Acrilan* fiber. Red with two appliquéd felt flags. Shirt had button-down collar. Did not stain cotton and viscose test fabrics in the 160° test, but did stain acetate, nylon, silk, and wool fabrics. Bursting strength met the standard, but was the lowest of the shirts tested. Shrinkage: 6% in length, 9% in width. No significant distortion of shape.

Garan (Garan Sportswear Inc., 112 W. 34th St., N.Y.C.) 98c. Red with horizontal black and white stripes, which were not matched at one side. Crew neck. Staining of test fabrics was within limits permitted by the standard. Shrinkage: 17% in length, 4% in width. Considerable distortion.

Garan Fraternity Stripes (Garan Sportswear Inc.) $1.98. Navy blue, with red, white, and light blue horizontal stripes, which were not matched at the sides. Shirt had button-down collar. Stained cotton and viscose fabrics in laundering at 160°F. One of the strongest fabrics of the shirts tested. Shrinkage: 16% in length, 9% in width. No significant distortion.

Sears Boyville (Sears-Roebuck's Cat. No. 43—4245) $1.14 each, 2 for $2.20, plus postage. Red, gray, and white horizontal stripes which were not matched at one side. Crew neck. Staining of the test fabrics was within limits permitted by the standard. One of the strongest fabrics of the shirts tested. Shrinkage: 15% in length, 6% in width. Considerable distortion.

* * *

Customode (Sold by W. T. Grant stores) $1.98. Black, gray, white, and red vertical stripes. Shirt had button-down collar. Stained cotton and silk fabrics in the laundering tests at 160°F. Shrinkage: 25% in length, 14% in width (greatest shrinkage of the shirts tested). No significant distortion.

Flight Club (Sold by W. T. Grant stores) $1. Blue, white, and red horizontal stripes, which were not matched at the sides. Crew neck. Staining of test fabrics was within limits permitted by the standard. One of the strongest fabrics of the shirts tested. Shrinkage: 15% in length, 13% in width. Considerable distortion.

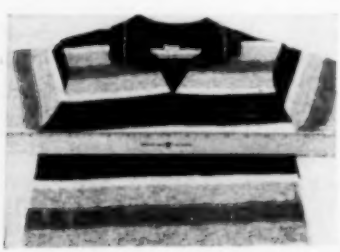
Rob Roy (Rob Roy Co., Inc., 1239 Broadway, New York 1) $2.50. Red, black, gray, and white vertical stripes. Shirt had button-down collar. Stained cotton and viscose fabrics in laundering tests at 160°F and 140°F. Shrinkage: 8% in length, 11% in width. Considerable distortion.

Topsail (Sold by Woolworth's stores) $1.98. Charcoal gray with red and white horizontal stripes. Shirt had button-down collar. The dyes stained cotton and viscose fabrics in the 160°F laundering test. Shrinkage: 14% in length, 2% in width. Some distortion.

C. Not Recommended

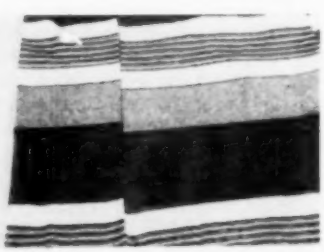
Gallant (Indiana Rayon Corp., Greenfield, Ind.) $1.98. Black, red, gray, and white horizontal stripes, which were not matched at one side. Shirt had button-down collar. Stained cotton and viscose fabrics in the laundering test at 160°F. One of the strongest fabrics tested. Shrinkage: 16% in length, 4% in width. Considerable distortion.

Pelham (Sold by G. C. Murphy Co. stores) $1.19. Navy blue, with red, gray, and white stripes. Crew neck. The navy blue lost sufficient color to be noticeably grayed after 3 launderings Stained cotton and viscose fabrics excessively in both 160°F and 140°F laundering tests. One of the strongest fabrics of the shirts tested. Shrinkage: 16% in length, 4% in width. Considerable distortion.



If it isn't straight and square to start out with, it is never going to be straight. ←

→ Mismatched and crooked stripes can make a boy look mismatched, too.



Stereophonic sound—a new kind of high fidelity?

WAY BACK in February 1938, Consumers' Research published in the BULLETIN an article entitled "High-Fidelity Radio at Low Cost." The wiring diagram called for rather simple, inexpensive components ranging in price from $1.50 for a low-priced transformer to $10 for a good second-hand speaker from one of the radio supply shops. The total cost of parts for the do-it-yourself fan to make a good amplifier was estimated at something like $30.

For a good many years, the big manufacturers in the field of radio and phonographs looked with a certain disdain upon high fidelity, as a field with no commercial importance or future, leaving it to small business firms on the theory that it would never appeal to a mass market and so warrant large-scale production. High fidelity has come a long way since 1938 and has become very big business indeed; the largest manufacturers now turn out high-fidelity sets and components and the future promises an even larger market than the $225,000,000 which is the current figure.

With the appearance of high-fidelity long-playing records in recent years, it seemed that the ultimate in good listening had been reached. But now something called stereophonic sound has made its appearance, a system that claims to add a new dimension to reproduction of music. In practice, the sound to be recorded is picked up by two or more microphones located in different sections of the orchestra or chorus, and the sound from each section is recorded on tape or on a disk as a separate "channel." When the two or three channels are played back through separate amplifiers and sent to separate speakers, placed in the same spatial relationship as were the microphones, the reproduction of sound is very lifelike both as to faithfulness of sound and the listeners' awareness of the direction from which it comes.

Actually stereo on records is not new. Cook Laboratories put out a stereo record about five years ago, but it required a pickup arm carrying two carefully aligned and spaced separate cartridges. Each of the two sound channels was recorded on a separate band of grooves on the record. While this system gave good stereo effect and pleasing reproduction, it took a lot of adjusting and experimenting to get the styli of the two pickups to fall into the right spots of the right grooves. The next stereo development to secure public attention (although this medium was introduced before the records) was stereo tape recording. Tape, while by no means a new development, has been promoted widely for consumer use and is now a highly satisfactory source for stereophonic reproduction of music, much used in theaters and other places of entertainment, and in broadcast stations. The one big drawback to pre-recorded tape for most ultimate consumers is its high price.

At last year's (1957) Audio Engineering Society convention in New York City, the Westrex Corp. introduced a new method of recording two separate channels of sound in one groove of an LP (33⅓ rpm.) record. Essentially, one channel is recorded on each of the two inclined walls of the groove. To play back this sound, a pickup with two electric-current-generating elements driven by a single stylus is needed. Each of the two channels requires a separate amplifier and speaker system for playback. The resulting sound can be startling to the listener who hears it for the first time, an amazingly satisfactory and realistic reproduction of the original orchestra or band music. It also can be very poor if low-grade equipment is used or the record is badly recorded.

Aside from the special kind of record, the stereo pickup cartridge is the only new addition to the high-fidelity art. The amplifiers and speakers are basically the same as those used in the conventional single-channel or monaural recording. Only now there are two of each used in the system.

The 1958 High Fidelity Music Show

At the show in New York City this year many new designs of amplifiers were exhibited which incorporated two power-amplifier channels on one chassis. Some were basic amplifiers with which separate control units for switching, tone, and volume controls were used. Others were complete with all controls on the same chassis. In either case, the basic circuit designs were not new. Speaker systems on the whole have not changed; two separated speakers of each model were demonstrated by the various manufacturers where one was needed before. Some manufacturers showed two separate-channel speakers in one cabinet, notably Bozak. These cabinets were finely finished pieces of furniture and they sounded excellent, with the usual Bozak fidelity of tone. Because of the added space needed for stereo speaker systems, manufacturers showed more cabinets in the smaller sizes than in previous years. There were several small speakers based on the air-suspension system first popularized by Acoustic Research. Speakers of this sort were shown by

Acoustic Research, University, Electro-Voice, KLH, JansZen, and others.

In order to put across stereo into a big mass market, speaker manufacturers will have to find ways to go easy on the consumer's pocketbook. Even if the consumer is so well heeled that he can afford two of the huge speakers that have become accepted as the finest, the plan of the man of the house to place two large cabinets in a well-arranged living room will probably meet with much resistance from the lady of the house. Taking these two points into consideration, and facing the realities of the home and its available space, the same manufacturers who pooh-poohed the small speakers a year ago are now extolling them as "the greatest." Some of these small speakers do produce very good sound. The *Acoustic Research AR-1*, the original of its type, is still an excellent system. The newer *KLH* systems are also very good, with clean and wide-range sound.

An important new development in speakers was the *Quad* full-range electrostatic speaker. Up to this year, electrostatic speakers have been satisfactory only down to about 400 cycles per second (approximately A above middle C on the piano). The new (to the U.S.A.) *Quad* speaker, however, covers frequencies as low as 40 cycles and does it quite well, with exceptionally smooth and even response that was very pleasant to listen to. It is expensive, selling for $345. A stereo system with two of these speakers sounded superb and alluring — fine for anyone who can afford the price charged for the two speakers, $690.

Another relatively new development in speakers was the *Integrand*. This system utilizes a separate speaker and amplifier for each of three sections of a *three*-way speaker system. The unique design of the system is in the use of transistor power amplifiers which use a special feedback signal that is generated by an extra coil around the speaker voice coil. This electrical feedback action is supposed to smooth out the response so as to correct for room acoustics as well as speaker placement in the room. For stereo, two complete three-way systems are mounted in the same cabinet. To the ears of one listener, the *Integrand* did not sound particularly smooth or outstanding; the system was priced at $595.

One of the problems of the stereo assembly seems to be speaker placement. The general consensus of opinion is that a separation of several feet for the two speaker assemblies is needed, depending on room size and layout. Two separate speakers have the advantage of being movable at will to create the best reproduction for a particular room. Therefore the all-in-one cabinet systems may be at a serious disadvantage unless the cabinet is 10 or 12 feet long, or thereabouts, and the room is big enough to permit a piece of furniture of such large size. Most cabinets are not so large; they are usually only 4 to 4½ feet long.

The most flexible system will have two matched speakers or speaker groups in separate cabinets that can be placed so as to give the most satisfactory results in a particular room. Some manufacturers believe that since frequencies below 300 cycles add nothing to the direction sense in stereo sound, the second channel needs only a small speaker capable of handling mid- and high-frequencies. Electro-Voice calls its system based on this principle the *Stereon*. In this system, a special filter network receives the signal from both amplifiers and then sends the low frequencies of both channels along with the mid-range and high frequencies of channel 1 to the first speaker. The mid-range and high frequencies of channel 2 are sent to the second speaker. One listener reported that he personally did not like the resulting sound, but preferred as more realistic the system which utilized two matched full-range speaker systems.

Stereo pickup cartridges

The really new—and vitally important—component of the high-fidelity assembly for reproducing stereo sound from records is the pickup cartridge. Most manufacturers who make monophonic cartridges showed a stereo cartridge at the 1958 High Fidelity Music Show, though some were not yet in production or had run into difficulties in the first production stages. All the present types used for monaural records were represented in the new stereo pickups, crystal, and ceramic (both piezoelectric), moving coil, variable reluctance, and condenser (*Weathers* FM). As with the monaural pickups, prices vary over a wide range, from low ($9) for the piezoelectric types, to high ($50) for the moving-coil types. One of the most pleasant sounding of the stereo pickups heard at the New York show was the inexpensive *Weathers Ceramic* ($9.70 to $16, depending on stylus). Certainly the $49 *Fairchild* sounded good, but it was considered not to have a sufficient degree of superiority to make it seem worth the extra expenditure over the *Weathers*.

The ceramic pickups offer a real advantage in that they need no preamplifier, and any reduction in the amount of equipment needed for stereo will be welcome, since the outlay is likely to be substantial before one gets everything going as one would wish. Many of the cartridges have been just announced and shown initially at the show. Consumers may find difficulty in purchasing them now, and those who can wait a few months before buying might be well advised to hold off for a time. The design and manufacturing methods

are constantly undergoing change, almost certainly for the better, and the whole situation is still very much in a state of flux. It is hoped that the confusion and problems in manufacturing will be straightened out soon after the first of the year.

Note that the stereo records should not be played with a regular monaural pickup cartridge. Many of these cartridges do not have the high vertical compliance ("give" or flexibility in the vertical direction) and will ruin a stereo record in a few plays, perhaps in a single play. However both monaural records and stereo records can be played monaurally without harm by a properly designed stereo cartridge. At the present time a stereo cartridge when used to play monaural records will not give as *good sound quality* as a fine monaural cartridge.

For most hi-fi devotees, the problem boils down to this question. Is stereo for me? Another question is, will stereo remain or is it a flash in the pan? Time will tell, but it seems likely that stereo *is* here to stay and will in time come to be the main type of recorded music in theaters, places of public assembly and entertainment, and ultimately in the home. Of course there will always be a few cases of small rooms, or rooms of unusual shape or furnishings, where loud-speaker placement or listener placement cannot be properly handled in a particular home, but we believe that in the main anyone who has the room to place two speakers correctly will want stereo.

Purchase now, or wait awhile?

As to the question of whether or not the consumer should buy a "package stereo" right now, the answer is, better wait a bit. There are so many new developments in pickups and new amplifier models coming out every day that equipment purchased now may well be obsolete in a matter of a few months.

For the audiophile who has a first-class monaural system at present, additional equipment to make a stereo system should certainly be of the same quality as the present system. The newcomer will be well advised to assemble a good monaural hi-fi system first, but with an eye to a future shift to stereo (for example, make sure that the changer or tone arm is bought already wired with the additional leads needed for a stereo cartridge). At a later date the extra amplifier, new cartridge, and extra speaker can be easily added. For the consumer interested in an instrument of ordinary quality such as one of the many "packaged" players assembled ready for use, it would be well to avoid the low-priced table-model type of so-called high fidelity, and indeed any small record players, table model or console, alleged to be high fidelity and/or stereo. Remember stereo isn't a new and better art than high fidelity. There can be and will be a lot of non-high-fidelity stereo as well as some good high-fidelity stereo. As with monaural equipment, don't expect to find a bargain item that will be first class. Such offerings will appear in some mail-order radio-TV catalogs, before long, and in newspaper ads.

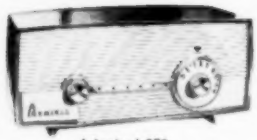
Some of the early packaged stereo sets have the second channel amplifier already installed, and the purchaser can add the second speaker at a future date. Others include only the cartridge of the stereo system, and to play the set stereophonically, one must add another amplifier as well as a speaker. Our suggestion is to purchase, if practicable, the set which has the dual channel amplifier already installed and add the extra speaker later if desired.

Beware of sets that are claimed to be already "wired for stereo" for these may only have the extra leads installed in the tone arm of the changer, and in such cases conversion to stereo will be just about as costly as conversion of any other monaural player.

All ordinary record players can be converted to stereo of sorts by adding a stereo pickup cartridge, an additional speaker, and an extra amplifier. The packaged ready-made stereo instruments may have all the wiring done and be housed in nice looking cabinets, but as with monaural hi-fi systems a much better system can be assembled from high-fidelity components and unit systems for better stereo sound, usually at far lower cost.

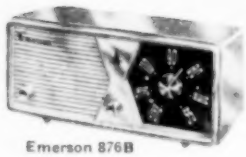
A time for experimentation

As one highly competent manufacturer's representative remarked to an engineer attending the New York Hi-Fi Music Show, "We have gone about as far as we can go with stereo until the do-it-yourself people experiment with various components and installation details." High-fidelity reproduction has made great progress since the pioneering days of the early diagram and description published by Consumers' Research in 1938, but it is again at the stage of the art in which the expert amateurs, by cut-and-try methods, and by dint of an infinite amount of trial and error in thousands of homes, can contribute a great deal to the development of an effective, economical, efficient high-fidelity stereo assembly. Neither we nor anyone else can report reliably at once on the proper components for a first-class stereo system at moderate price; it will take some months before things shake down sufficiently that one could buy with reasonable assurance that the system will be good and worth its price, not only at the moment, but for several years to come.

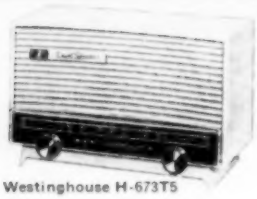


Admiral 279

General Electric T-130A



Emerson 876B



Westinghouse H-673T5

Small radios

ACCORDING to a recent estimate there are more than 160,000,000 radio receivers in use in the United States. Of this number, about 25 percent are automobile radios. In comparing the number of sets remaining—well over 100,000,000—with the number of television receivers now in use (somewhat less than 50,000,000), one can only conclude that radio is still "big business" in the home, and pretty likely to remain so for many years to come, unless TV receivers get to be a lot cheaper than now seems likely.

One interesting aspect of the radio business is the fact that the circuit design for home receivers has remained unchanged since the early 1930's. Practically all receivers for home use employ what is called the superheterodyne or double detection principle for reception of radio broadcasts. Tube types change, components change shape and size, substitutes for tubes are devised, but the basic circuit remains with rather surprising uniformity from one make to another.

What is new?

Except for the usual yearly change in shape of and trim of the cabinet, the standard 4-tube-plus-rectifier table model is still the breadwinner for the radio industry. Prices of the plain, ordinary models vary from $20 to $30. If you want features and gadgets, you can buy radios with clocks and switches of various kinds to start a coffee percolator, perhaps, and RCA even has a model with a built-in cigarette lighter. If you wish some of these or possibly somewhat improved sound quality, you can pay $30 to $50 for a table model.

In some of the 1959 receivers, manufacturers have taken a long overdue step which tends to improve sound quality (poor sound quality is a major weakness of the small radios). General Electric and Motorola are stressing in their literature this year that they are employing better quality output transformers in some of their models. Several manufacturers, too, General Electric, Motorola, Sylvania, and Zenith, now include 2-speaker models in their lines. It is very likely that these changes for the better have been brought about by the increased awareness on the part of millions of radio listeners of the possibilities of much better sound quality, through high-fidelity reception they have experienced in the homes of friends or acquaintances. In certain other new models, speakers larger than the old "standard" 4-inch are used, to provide a slight improvement in bass response.

Another featured improvement in some sets is the use of a push-pull on-off switch combined with the volume control knob. Such an arrangement enables the user to turn the set on or off, at will, without changing the position of the volume control; this is a useful improvement.

About the only really new feature in clock radios is the use of push-button controls on some of the more expensive models of *Motorola* and *Philco*, a 1959 feature claimed as exclusive by both companies. In other respects, newly designed cabinets are the only noticeable differences.

Both so-called "3-way" (a-c, d-c, or battery operation) and transistor portable radios are essentially similar to last year's models in appearance and design, and some manufacturers are continuing several of their 1958 models in their 1959 lines. It is interesting to note, too, that the increasing popularity of the transistor portable has not resulted in the complete fading out of the less expensive 3-way sets. Possibly initial cost is a determining factor. It is likely, too, that many people are unwilling to sacrifice good volume and sound quality to gain the comparatively low battery-replacement cost of the transistor type of receiver.

Printed-circuit construction continues to be used by practically all manufacturers in most of the models in their lines. It offers advantages in speed and uniformity of production and helps in maintaining price levels against rising labor costs. Although it had been found that printed-circuit construction presents difficulties in servicing, it appears, at this time, that servicemen have now had sufficient experience in repairing the new circuit devices that this former disadvantage is no longer a serious one.

A word of warning

Phonograph input jacks were present on several of the table-model and clock radios tested. Consumers' Research wishes to stress the fact that such a connection may present a dangerous shock hazard with some receivers, even though that hazard may not be present when the radio is used

alone. On many record changers of the kind t would likely be used with a small radio, the pic arm (or the cartridge) is connected to the groun side of the lead which is plugged into the pho input jack on the radio. That jack, in turn, likely to be connected to the so-called B— tential in the set, a point at which adequate volt age and current may be available to cause death. If you—or your child—receive even a slight "tingle" when lifting or touching any part of the record player, have the combination checked immediately by a competent serviceman. Better still, have it checked before you use it at all, for it might not give any warning indication, yet still be dangerous. A slight tingle under a favorable condition could mean death under another, and "hot" pickup arms have accounted for more than one serious or fatal electric shock.

The radios listed are arranged in alphabetical order within the *A*-, *B*-, and *C*-rated groups in the respective type classifications.

The following models, originally reported in the January 1958 BULLETIN, are still current and included for the benefit of new subscribers who did not receive that BULLETIN: *Admiral 244*, *Emerson 888*, *RCA 8X6M* and *7-BX-9H*, *Zenith A-400*.

Table models

A. Recommended

Admiral, Model 279 (Admiral Corp., Chicago 47) $29.95.

Good tonal quality for a table model.

Plastic cabinet. 4 in. x 6 in. oval speaker. Workmanship, very good. Ease of servicing, very good. Sensitivity, good; selectivity, satisfactory. Volume of output, good. Tonal quality, good for a table model.

B. Intermediate

Admiral, Model 244 (Admiral Corp.) $21.95.

A table-model receiver of average quality.

Plastic cabinet. 4-in. speaker. Workmanship and ease of servicing, good. Sensitivity and selectivity, fair. Volume of output was below average when the volume was turned down to the point at which distortion was reasonably low. Tonal quality, fairly good.

General Electric, Model T-130A (General Electric Co., Utica, N.Y.) $29.95.

Slightly below average in some important respects.

Plastic cabinet. 5 x 7 in. oval speaker. Workmanship, good. Ease of servicing, good. Sensitivity, good; selectivity, only fair. Volume of output, fair. Tonal quality, fair.

Motorola, Model 5T13 (Motorola Inc., Chicago) $29.95.

A fairly good receiver in most respects.

Plastic cabinet. 4 x 6 in. oval speaker. Workmanship, good. Ease of servicing, good. Sensitivity and selectivity, good. Volume of output, good. Tonal quality, good. Some shock hazard present; leakage current, 0.7 ma. (would otherwise be worthy of an *A-Recommended* rating).

RCA 8X6M (Radio Corp. of America, RCA Victor Radio-and "Victrola" Div., Camden 8, N.J.) $24.95.

An average receiver in most important respects.

Plastic cabinet. 4-in. speaker. Workmanship was good, but as several parts were not readily accessible, servicing would be difficult. Sensitivity, good; selectivity, fair. Volume of sound output, fair. Tonal quality, average.

Westinghouse, Model H-673T5 (Westinghouse Electric Corp., Metuchen, N.J.) $29.95.

An average receiver in most respects.

Plastic cabinet. Two 4-in. speakers. Workmanship, good. Ease of servicing, good. Sensitivity, good; selectivity, fairly good. Volume of output, satisfactory. Tonal quality, satisfactory.

C. Not Recommended

Emerson, Model 876B (Emerson Radio & Phonograph Corp., Jersey City 2, N.J.) $24.

Performance was below average in several respects.

Plastic cabinet. 4-in. speaker. Workmanship judged fair. Ease of servicing, very good. Sensitivity and selectivity, good. Volume of output at a low distortion level was low. Tonal quality was relatively poor at normal listening levels.

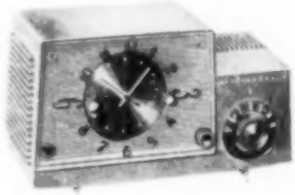
RCA 8X8 (Radio Corp. of America, RCA Victor Radio and "Victrola" Div.) $29.95.

An average receiver, but leakage current was excessive.

Plastic cabinet. Two 3½-in. speakers. Workmanship, good. Ease of servicing, good. Sensitivity, good; selectivity, poor. Volume of output, fair. Tonal quality, good. Some shock hazard present; leakage current, 2 ma. from photograph input jack.

Clock radios

The clock radios tested all incorporated 5-tube (so-called ac-dc) chassis which were generally similar in design to those used in the table-model radios. Because of the presence of the electric clock, they were suitable for use only on 60-cycle alternating current. The cabinets were made of plastic. All but the *RCA* had a *Telechron* electric clock with buzzer alarm; all an appliance outlet (capable of handling about 1100 watts) at the rear for use in starting the coffee maker or other appliance in the morning.



Westinghouse H-583T5

B. Intermediate

Westinghouse, Model H-583T5 (Westinghouse Electric Corp.) $34.95.

Slightly below average in some important respects.

Plastic cabinet. 3½-in. speaker. Workmanship, good. Ease of servicing, poor. Sensitivity, good; selectivity, fairly good. Volume of output, low, with reasonable levels of distortion. Tonal quality, only fair.

C. Not Recommended

General Electric, Model C416 (General Electric Co.) $39.95.

Clock radio of average performance, but leakage current was excessive.

Plastic cabinet. 4-in. speaker. Workmanship, very good. Ease of servicing judged fair. Sensitivity, good; selectivity, satisfactory. Volume of output at reasonable level of distortion, relatively low. Tonal quality judged satisfactory. Clock hands were luminous, as is desirable. *Snooz-Alarm* provides repeated buzzer alarm at 7-min. intervals as sleeper may choose. A dangerous amount of leakage current was present, 16 ma., and available at the phonograph input jack.

Motorola, Model 5C14PW (Motorola Inc.) $36.95.

An average receiver in most respects.

Plastic cabinet. 4-in. speaker. Workmanship, good. Ease of servicing, good. Sensitivity, good; selectivity, satisfactory. Volume of output, good. Tonal quality, fair. Some shock hazard present; leakage current, 2.5 ma.

RCA 9HC7FE (Radio Corp. of America, RCA Victor Radio and "Victrola" Div.) $39.95.

An average receiver, but leakage current was excessive.

Plastic cabinet. 3½-in. speaker. Workmanship, fair. Ease of servicing, good. Sensitivity, good; selectivity, poor. Volume of output, satisfactory. Tonal quality, fair. Some shock hazard present; leakage current, 3 ma. from phonograph input jack.

Hoffman Solaradio KP411

Transistor portables

The list prices given do not include the cost of the batteries needed for operation.

A. Recommended

Hoffman Solaradio, Model KP411 (Hoffman Radio, Div. of Hoffman Electronics Corp., Los Angeles 54) $99.95.

A conversation piece. Above average in performance.

Six transistors, with push-pull output. Weight, 2.3 lb. Plastic case, 4¼ in. high, 8¾ in. wide, 1⅜ in. deep. 2½-in. speaker. Four *Gould* 1¼-volt rechargeable batteries (nickel-cadmium type) supplied power. Batteries are recharged by electric power developed by solar cells in handle when cells are exposed to sunlight or incandescent light. Workmanship, good. Ease of servicing, good. Sensitivity and selectivity, good. Volume of output, good for a transistor portable. Tonal quality, good.

Motorola, Model 6X31 (Motorola Inc.) $49.95.

Slightly above average in performance.

Six transistors, with push-pull output. Weight, 1 lb. 2 oz. Metal case, 4¼ in. high, 6¼ in. wide, 1¾ in. deep. 2¾-in. speaker. Four 1½-volt *Penlite* batteries (50c for 4) supplied power; estimated cost of operation per hour, 0.5c. Workmanship, good. Ease of servicing, good. Sensitivity and selectivity, good. Volume of output, fair. Tonal quality, good.

RCA 9BT9 (Radio Corp. of America, RCA Victor Radio and "Victrola" Div.) $49.95.

An average receiver in most respects.

Six transistors, with push-pull output. Weight, 1.0 lb. Plastic case, 3½ in. high, 5¾ in. wide, 1½ in. deep. 2½-in. speaker. One 9-volt battery ($1.35) supplied power; estimated cost of operation per hour, 0.7c. Workmanship, fair. Ease of servicing, good. Sensitivity and selectivity, good. Volume of output, good. Tonal quality, satisfactory.

Zenith, Model Royal 300 (Zenith Radio Corp., Chicago 39) $59.95.

A well-designed transistor portable.

Six transistors, with push-pull output. Weight, 1.2 lb. Nylon plastic case, 5¾ in. high, 3½ in. wide, 1½ in. deep. 2½-in. speaker. Four 1½-volt *Penlite* batteries (50c) supplied power; estimated cost of operation per hour, 0.5c. Workmanship, good. Ease of servicing, very good. Sensitivity, good; selectivity, very good Volume of output, satisfactory. Tonal quality, satisfactory, and background noise was very low (desirable).

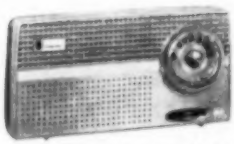
B. Intermediate

Emerson 888 (Emerson Radio & Phonograph Corp.) $44.

An average receiver in most respects.

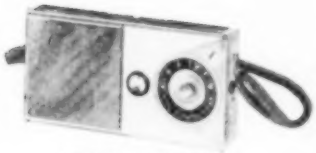
Eight transistors. Plastic case, 4 in. high, 6½ in. long, 2 in. deep. 3½-in. speaker. Sensitivity and selectivity, fair. Volume of sound output was fair, but there was an undesirable noise in the background at all times, which detracted from otherwise satisfactory tonal quality.

Zenith Royal 300



Westinghouse H-651P6

Emerson 868



General Electric P766A

Four 1½-volt *Penlite* batteries (50c) supplied power. Estimated cost of operation per hour, 0.6c. Weight, 1.5 lb. Workmanship was not as good as would be desirable and servicing would be difficult because of inaccessibility of parts.

Emerson 868 (Emerson Radio & Phonograph Corp.) $38.

An average receiver in most respects.

Four transistors. Weight, 3.0 lb. Plastic case, 9 in. high, 10 in. wide, 3 in. deep. 3½-in. speaker. One 9-volt battery ($1.65) supplied power; estimated cost of operation per hour, 0.2c. Workmanship, fair. Ease of servicing, good. Sensitivity and selectivity, good. Volume of output, fair. Tonal quality, satisfactory, but a noticeable amount of background noise was present.

General Electric, Model P766A (General Electric Co.) $49.95.

An average receiver in most respects.

Six transistors, with push-pull output. Weight, 1.3 lb. Anodized aluminum case, 3½ in. high, 6¾ in. wide, 1⅜ in. deep. 2½-in. speaker. Two 1½-volt *Penlite* batteries (25c for 2) supplied power; estimated cost of operation per hour, 0.5c. Workmanship, good. Ease of servicing, poor. Sensitivity and selectivity, good. Volume of sound output, good for transistor portable in this price class. Tonal quality, satisfactory.

Westinghouse, Model H-651P6 (Westinghouse Electric Corp.) $49.95.

An average receiver in most respects.

Six transistors, with push-pull output. Weight, 1.5 lb. Plastic case, 3⅛ in. high, 6 in. wide, 1⅝ in. deep. 2¾-in. speaker. One 9-volt battery ($1.35) supplied power; estimated cost of operation per hour, 0.7c. Workmanship, good. Ease of servicing, poor. Sensitivity, good; selectivity, fair. Volume of output, good for a transistor portable. Tonal quality, good.

Vacuum-tube portable receivers

For use, as desired, on alternating or direct current, or with self-contained dry batteries. The volume of output from a vacuum-tube portable is generally greater than that to be obtained from a transistor portable.

A. Recommended

RCA, Model 7-BX-9H (Radio Corp. of America, RCA Victor Radio & "Victrola" Div.) $69.95, plus $6.75 for batteries.

Judged above average in most respects.

A two-band portable, which provided for reception of the regular broadcast band and of a part of the short-wave band (2 to 5 megacycles) also. Plastic cabinet, 8¾ in. high, 11⅜ in. wide, 5¼ in. deep. 4-in. speaker. Sensitivity, good; selectivity, satisfactory. Volume of output, average. Tonal quality, average. Accessibility of parts for servicing, good.

Zenith, Model A-400 (Zenith Radio Corp.) $29.95, plus $5.70 for batteries.

Well designed, with above-average station-getting ability and adequate volume of sound for a portable receiver.

Plastic cabinet, 8¾ in. high, 11⅜ in. wide, 2¾ in. deep. 4-in. diameter speaker. Sensitivity, very good. Volume of output, about average for a portable set. Tonal quality, good. Accessibility of parts for servicing, good.

Recent reprints from Consumer Bulletin

		Price (stamps acceptable)
Fat in the diet	July '57	10c
Heart disease	Dec. '57	10c
The food you eat	Sept. '57	10c
Notes on foods and nutrition	'57-'58 Annual	20c
Those labels on packaged foods	Feb. '58	10c
Contact copying machines	Mar. '58	15c
Choosing the right detergent for laundering	Mar. '58	10c
Electronic organs for churches	Aug. '58	10c
The truth about nylon and rayon tires	Sept. '58	10c
Taking a trip by air	Dec. '58	15c

Emendations to Consumer Bulletin Articles

	Month	Page
Air conditioners (June '58)	Sept.	28
Cameras (Feb. '58)	Apr.	14
Cars, European-made (Jan. '58)	Mar.	28
Cars, 1958—features and trends (Jan. '58)	Mar.	28
Copying machines, contact (Mar. '58)	June	30
Detergents (Dec. '57, Mar. '58)	May	22
Detergents (Mar. '58)	Aug.	12
Dishwashers, automatic (Aug. '57)	Feb.	16
Organs for the home, electronic (Feb. '58)	Apr.	14
Pumps, aquarium (Jan. '58)	Aug.	12
Reels, fresh-water spinfishing (Apr. '58)	Aug.	12
Refrigerator-freezer combinations (Aug. '58)	Nov.	26
Restaurants (July '58)	Aug.	12
Saws, circular (Nov. '57)	Mar.	28
Saws, saber, electric (June '58)	Sept.	28
Thermometers, clinical (Dec. '57)	Apr.	14
Watches, wrist, men's (Mar. '58)	June	30

Taking a trip by air

BY PETER E. VIEMEISTER AND DONALD A. IMGRAM

AIR TRAVEL is increasing steadily every year. Almost 9 percent of all American adults completed an airplane trip in 1957, according to a University of Michigan survey. By the end of last year 28 percent of the adult population had flown sometime during their lives.

While surface transport is predominantly used for short trips, airplanes have become the major means of passenger travel on longer trips. In 1957, 40 percent of the passengers who made trips of 100 to 500 miles used airliners to complete some portion of the trip. On trips of over 1000 miles, about 67 percent of all travelers used airplanes. And over three fourths of all Americans who journeyed overseas last year flew to their destinations. But in spite of all these remarkable statistics, 72 percent of all U.S. adults have not yet taken their first plane ride. This has not gone unnoticed by the air transportation industry.

The authors of the accompanying article on air travel are aviation consultants (Viemeister Associates, Inc.). They are graduate engineers with a total of 16 years' experience, and during the past seven years have made a total of over 150 airline trips on 14 different models of airliners, using 12 different airlines. The authors have flown also in 10 other types of helicopters and airplanes.

The coming campaign

The airlines of the world are now engaged in a major modernization program of replacing present piston-engine planes with brand new turbine-powered aircraft. Boeing, Convair, de Havilland, and Douglas are building turbojet airliners. Turbojet engines, popularly known as "pure jets" or "straight jets," have no propellers; they derive their forward push by exhausting hot gases rearward. Fairchild, Lockheed, and Vickers are producing "turboprop" liners, which use turbine engines to turn propellers. A turboprop engine is sometimes called a "propjet." The airlines have ordered over two billion dollars' worth of new turbine transports. All of these planes offer the passenger a faster, smoother, quieter ride—incomparably more comfortable than that of the most modern piston-engine-type plane.

Turboprop aircraft have been in service for about the past two years, and scheduled service with pure jets started this fall. Some of the new transports will seat up to twice as many passengers as the old models. Because of their great speed, a single large jet transport like the Boeing 707 or Douglas DC-8 can carry as many people to Europe in a year as can the huge ocean liner S.S. United States. The airlines are faced with the problem of finding many new passengers to fill the increased seating capacities. In an effort to do so, they have already begun extensive advertising campaigns.

One of the main aims of all advertising will be to destroy the belief, held by many non-flyers, that flying is dangerous. In this respect the airlines have a legitimate set of statistics to support their claims. Headlined air crashes notwithstanding, travel by scheduled airlines is remarkably safe. The recent accident off Ireland was the first postwar loss of a commercial transport on the North Atlantic run. Five million people had crossed the Atlantic without mishap before that unfortunate occurrence. The U.S. Civil Aeronautics Board reports that in 1956 scheduled domestic airlines achieved a safety record of 0.6 fatalities for every 100 million passenger miles. This record is more than four times better than for private automobiles. If you are making a long trip, the odds are you will be much safer in a scheduled airliner than in your own car, but not quite so safe as in a bus or on a train.

Class of accommodation

Within the United States two main classes of service are available, "First Class" and "Tourist (or Coach) Class." First Class fare between New York and Los Angeles, including the 10 percent transportation tax, is $364.75 round trip. The same round-trip flight costs a Tourist passenger $232.10. Children between 2 and 12 years of age travel at half these rates. Children under 2, not occupying a seat, travel free of charge.

A "Family Plan" is available to First Class passengers. Under this arrangement, an adult paying full First Class fare pays only two thirds First Class rates for his wife and any children over 12 years old. Family Plan rates are in effect only on flights originating after noon on Monday and before noon on Thursday.

Domestic Tourist Class passengers cannot obtain Family Plan benefits. They can, however, take advantage of a "30 Day Excursion Plan," whereby the Tourist fare for a round-trip flight from New York to Los Angeles completed within 30 days is reduced to $185.24.

On transatlantic flights, "First Class," "Tourist," and "Economy" flights are offered by most airlines. The First Class New York-London fare is $783. Tourist and Economy rates for the same round trip are $567 and $453.60, respectively. As on domestic flights, children between 2 and 12 ride for half fare, but children under 2 must pay 10 percent of the applicable fare. "De Luxe" services are offered by some airlines at an extra charge up to $100 above normal First Class fares. There are no federal taxes on international flights, except those to and from Canada.

Family Plans, with rate reductions for family members accompanying a full-fare paying passenger, are available to all transatlantic travelers. The amounts of the rate reductions for each additional member of the family for round trips are: $300 for First Class; $200 for Tourist; and $150 for Economy passengers. These international family plans are available any day from October 15 to March 31.

Airline rate structures are thus somewhat complex; if you are planning a family trip, check the total cost for your family on each type of service. Explore all of the possibilities. It might be possible to obtain a better class of accommodation at a lower total outlay.

Since, in general, the same type of airplane is used to provide all classes of service, going first class will not necessarily mean getting there in the fastest time. In fact, some airplanes are so divided that more than one class of passenger is carried on the same flight. For example, first class passengers may be carried in the rear cabin and tourist class in a forward compartment.

That the same airplanes are frequently used for all classes of service has led to the illusion that the only difference between classes is the type of meal served. This is a misconception. There are differences in the meals: economy meals are limited, by international agreement, to cold sandwiches; tourist class provides hot meals; and first class flights serve sumptuous full-course dinners. But the differences in meals could not begin to account for the large variance in fares. Neither can a difference in "operational efficiency." The major difference between classes, and it is significant, is in passenger comfort. Lower fares are charged in tourist and economy classes because more people are fitted into the same space.

Again by international agreement, first class seats on overseas flights can be no closer than 42 inches, measured back to back. Tourist and Economy seats on international flights can be no closer than 39 and 34 inches, respectively. Try these spacings with a couple of kitchen chairs and you will get some idea of the relative leg room available on the different classes of flights. On long flights, tall passengers will feel severely cramped in seats spaced only 34 inches apart.

In addition to seat spacing, there is a difference in seat widths. First-class seats are generously wide, and, on current piston-engine aircraft, no more than two abreast. Some new turbine aircraft, because they are wider inside, will utilize both two- and three-abreast seating arrangements even in first class setups. Tourist and Economy Class seats are usually narrower, and three abreast. Aisle widths on these flights are also less than on first class flights. Married couples traveling with a small child may find three-abreast seats ideal, but for a party of two, the presence of a third person may tend to intrude on their privacy.

The number of toilets per plane is usually the same for all classes of flights, so there may be more waiting on Tourist and Economy flights. Since there are more people aboard Tourist and Economy class planes, disembarking, claiming baggage, and processing through customs will take longer.

If cost is important, go Economy Class. If comfort is of prime consideration, go First Class. Tourist Class is a compromise.

Types of aircraft

The choice of type of aircraft is important on overwater flights. At the present time, the only aircraft capable of making non-stop transatlantic flights (in both directions on a year-round basis) are the Douglas DC-7C, Lockheed 1649, and long-range versions of the propjet Bristol Britannia. "Intercontinental" versions of the Boeing 707 and Douglas DC-8 jets will also have this ability, but early model jets do not. Adequate range means eliminating refueling at such spots as Gander, Newfoundland, Keflavik, Iceland, or Shannon, Ireland. Refueling wastes time, so when you look at advertisements don't be misled by statements regarding cruising speeds. Check the timetable takeoff time and landing time at destination to see which airplane will get you there first. A 600 m.p.h. airplane may not get you to your destination as quickly as a slower plane, if the faster airliner has to make an enroute fueling stop. Fewer landings mean greater comfort and convenience and greater safety.

In the interests of comfort, always choose a pressurized airplane. Pressurization systems can maintain a "cabin altitude" less than the cruising altitude. For example, the cabin of a pressurized airplane may be at a pressure equal to that of 8000 feet altitude, while the airplane itself is cruising at 25,000 feet. Pressurized planes are much less fatiguing and more comfortable than planes without this feature. The four-engine

Douglas DC-4, in widespread use by many charter airlines (those that do not maintain published schedules) and some small scheduled airlines, is unpressurized. The DC-4, now as much as 14 years old, appears almost identical to the more modern, pressurized DC-6 series aircraft, but it can be identified by its round windows at the passenger positions. DC-6 windows are square. Some operators have painted the round DC-4 windows square to give the plane the appearance of a DC-6. The entire Constellation series of planes is pressurized, as are the twin-engine Convair and Martin transports, and all turbine aircraft.

Another consideration in the selection of an aircraft is the length of time the particular model has been in service. Although all new models are thoroughly tested, virtually every new type of airplane undergoes "teething troubles" when first placed in day-to-day operation. New aircraft frequently experience inopportune delays because of minor "bugs," and some experienced travelers refrain from flying in a new model airliner for the first six months. Even the DC-6 and the Constellation series, which are today recognized as very reliable airplanes, had their problems when first placed into service.

Which airline to travel by

The world is served by hundreds of airlines, and most cities can be reached by more than one airline. Each line is different from every other by virtue of its nationality, management policies, and the type of airplanes it flies.

All scheduled U.S. carriers are watched over by the Government's Civil Aeronautics Board which has established the stiffest set of regulations in the world. U.S. airline operations must be conducted in accordance with these regulations, and the airplanes the lines use must meet certain design and performance standards.

By and large, all U.S. airlines are safe, reliable, and courteous. While all of them strive to treat their passengers with consideration, their organizations number thousands of employees, so that within any airline there are bound to be variations in the treatment you might receive at various cities. Some airline travelers who have occasion to fly over the same route several times, try each airline available, and then stick with the one that gives them the best service.

The top ten scheduled U.S. airlines, on the basis of passenger revenues earned during 1957 on domestic routes are, in order:

1. American
2. United
3. Eastern
4. Trans World (TWA)
5. Capital
6. Delta
7. Braniff
8. Northwest Orient
9. National
10. Western

Several American airlines are available for overseas flights. In addition, the traveler has the option of flying on a foreign airline. Many foreign airlines, like all scheduled U.S. international carriers, belong to the International Air Transport Association (IATA), which establishes minimum standards for fares, food (maximum standards, too, for foods), seat spacing, operations, etc. Some airlines, including all Iron Curtain airlines, establish their own rules and regulations. Generally speaking, it is considered good practice to fly with IATA-member airlines. The top ten carriers serving the North Atlantic run (all of which are IATA members) are listed here in order of the number of passengers carried during the first six months of this year:

1. Pan American
2. Trans World (TWA)
3. British Overseas Airways (BOAC)
4. Scandanavian Airlines System (SAS)
5. Air France
6. Royal Dutch (KLM)
7. Sabena Belgian World Airlines
8. Deutsche Lufthansa
9. Swissair
10. El Al Israel Airlines

The two top spots are held by American-flag airlines. If you prefer to fly by an American-owned-and-managed line, don't hesitate to do so. American lines have won their top places because of their outstanding reputation for safety and performance. But some air travelers like to fly with foreign airlines. Each foreign line strives to add something of its own country's charm to their flights, and as a result a vacation starts a little sooner if you step right into a continental atmosphere.

When traveling in South America or in the Far East, stick with the U.S. lines, or with the major European carriers that serve these areas. The numerous airlines of the British Commonwealth also have commendable reputations. If none of these are available, try the service of some other IATA member. Stay away from small, recently organized foreign airlines that offer "cut-rate fares" or operate obsolete twin-engine aircraft. Until the Russians disclose data on the performance and construction of their planes—which they have so far been reluctant to do—don't fly on their aircraft. Although performance of Russian aircraft is generally good, little is known about the reliability of their planes. The indications are that their safety standards are not up to ours.

The relative safety records of various airlines is a frequent topic of discussion. There is some reluctance to fly with a particular airline because of a recent accident involving that carrier. The

type and *cause* of the accident must be given consideration in any attempt at estimation of safety of any line. However, the number of accidents is so small in relation to the total number of flights and of passengers carried that the traveler is not justified in drawing conclusions regarding the comparative safety records of individual major airlines from the limited data available to him.

Tips to air travelers

If you place *unusual* emphasis on the safety aspects of travel, here are a few general suggestions. Some you can follow in all cases; some you may apply when practicable to do so.

1. Fly with a U.S. or major IATA-member airline.
2. Look over the timetable and select a four-engine plane.
3. Pick a non-stop flight, or one with the fewest stops.
4. Sit next to an emergency exit, near the back of the plane.
5. Keep your seat belt fastened at all times—snug during landing and takeoff, comfortably loose at other times.

If you want maximum comfort:

1. Fly in a turbine aircraft. These planes fly "over the weather," have no engine vibration, and tend to be quieter than piston-engine planes.
2. Sit over the center of the wing. It may be a little noisier than in the rear, but it will be more comfortable in bumpy weather.
3. Choose a pressurized plane.
4. For greatest comfort, better meals, and more spacious seating, go First Class.
5. Although most plane flights are more comfortable than most car rides, if you tend to get seasick or carsick, it will be wise to bring along some seasickness pills.

If you want to have a little fun in planning your trip at home, purchase one of the two "Airline Guides" which contain all domestic and international flight schedules of all airlines. By quick reference to these publications, you can obtain a complete list of all flights between any two cities in the world. These guides also contain much interesting information about fares, customs regulations, baggage restrictions, types of airplanes, passports, visas, currency exchange rates, etc., and are "the" handbooks used by all travel agencies and ticket offices. The two most popular guides are:

Official Airline Guide, World-Wide Edition, published monthly by American Aviation Publications, Inc., of 1001 Vermont Ave., N.W., Washington 5, D.C. (New York Office) 17 East 48 St., New York 17). Annual subscription, $19.50. Single copy, $2.

ABC World Airways Guide, published monthly by Thomas Skinner & Co., Ltd., of 111 Broadway, New York 6. Annual subscription, $26. Single copy, $2.25.

* * *

Reprints of the foregoing article are available at 15 cents each, from Consumers' Research, Inc., Washington, N. J.

Further brief report on the Rambler American

FOLLOWING THE REPORT by Consumers' Research on the 1958 model of this car in the July 1958 CONSUMER BULLETIN we received a considerable number of letters from subscribers noting that the gasoline mileage figures we had reported were at considerable variance with those they had obtained on their own cars. (Subscribers reported gasoline mileages ranging from 16 to 28 m.p.g. on the *Rambler*. None reported the 35 m.p.g. the advertising had suggested as possible.)

Consumers' Research, therefore, obtained another brand-new *Rambler American* and drove it carefully in accordance with the manufacturer's instructions, for about 2000 miles. The car was then taken to the dealer for a thorough check prior to testing. This car was equipped with overdrive and a 4.11 rear axle ratio, as was the original test car. The second *Rambler American* gave about 15 percent better performance in acceleration and gasoline mileage (see table).

	First Rambler American	Second Rambler American
Acceleration 0 to 60 m.p.h. (gears shifted at 30 and 50 m.p.h.)	20.1 sec.	17.5 sec.
Gasoline mileage at a constant 50 m.p.h. (true speed) on a level road		
In third gear	18.2 m.p.g.	21.0 m.p.g.
In overdrive	23.1 m.p.g.	25.5 m.p.g.

The considerable differences noted by subscribers and those obtained with the two test cars are not usually to be expected, in comparing several samples. Very likely they indicate why some are pleased with the *American's* gasoline economy, others not.

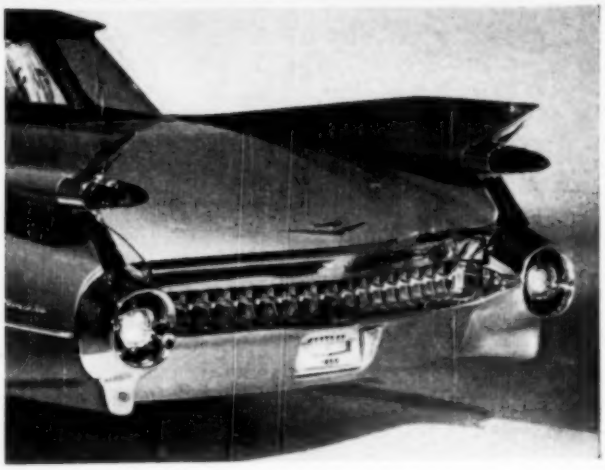
A word on the 1959 automobiles

THE RUMORS and advance reports that newspapers and magazines have been grinding out about the 1959 cars can now be checked for accuracy. In the vitally important respects of safety, practicability, and economical transportation, the 1959 cars are not greatly different from the 1958 models, in spite of advertising claims to make you believe the newest cars are the last word in everything. Nearly all the changes are changes in style only, with longer, lower, wider bodies, more glass area, more chrome. The continuation of old habits is not surprising. When Detroit magnates were finally shocked by the rapid inroads of the smaller and more economical foreign cars, it was too late to correct their mistakes, for the designing and tooling of the 1959 models were done in 1956.

Do this year's cars make obsolete the car which you now own? By no means. If your car still looks well and does not require expensive repairs, you will be doing yourself no particular favor to buy a new 1959 automobile, with its overdecoration, overprotuberance, and many details which will be costly to maintain and repair.

The working parts of the cars, what is inside the body shell, are much as they were, except for the big engines. (The continuance of a good basic mechanical design is to the consumer's advantage.) There is no doubt, however, that to many consumers novelties in body design and ornamentation play a large part in choice, a fact which the manufacturers rely upon in their practice of straining every designer and draftsman to make previous models seem quickly dated.

General Motors have made the most drastic changes in style; GM cars, no longer conservative, tend to be eye-catching and be-gadgeted, even flashy. GM's top car, the *Cadillac*, is described by its manufacturer as setting a new style note "from the exquisitely wrought grille and hood to the beautifully sculptured rear fins" and by the sweeping elegance of its newly-created silhouette. That may be true—to an adman—but a writer in a British automobile magazine after viewing the new *Cadillac* at the Paris Salon spoke less generously of *Cadillac's* style; he described the *Fleetwood* model as a "vulgar, overfinned monster in which the services of a professional air hostess would not seem out of place." (See the picture of the *Cadillac* rear above.)



The only really new U.S.-made car this year is the *Studebaker Lark;* this, on the basis of preliminary information, should give some healthy competition to the foreign cars and the *Rambler*.

If car manufacturers were to take some of the hundreds of millions of dollars they spend to make pointless changes of little value to the consumer, and apply it to the production of cars of better and more assured quality, with less need for the correction of mistakes and errors in assembly after delivery, and at much lower prices, the consumer would really benefit and Detroit would have less to fear from the now very substantial invasion of the American market by *Volkswagen*, *Renault*, *English Ford*, *Hillman*, and other small, economical foreign cars.

Manufacturers made a grave mistake in assuming that consumers' acceptance of the garish, gaudy, grotesque, and freakish in body designs was to continue indefinitely.

Some millions of Americans now realize that the shape of the body work and the gleam of chrome are not so vital as they were thought to be, that economy in first cost and operation and ease of repair and simplicity are virtues at least as important as sculptured fins. Manufacturers are on notice that the public which took the pride in width, roominess, gauds, and gadgets may be fed up with the whole complex ornamentation and gadgetry and would like to see cars, like those from Europe, that are functional, simple, and clear in their lines. Millions resent Detroit designers' strained efforts to make radical changes in body design so that a car two or three years old looks like something the plumber or paperhanger would use to haul his tools in.

We shall report upon the cars that are most important in sales volume among the season's offerings, in our usual way, as fast as cars become available for purchase and tests can be completed.

Snow tires

(*The beginning of this article is on page 39*)

tread, the open areas are too small, and under most circumstances the snow becomes lodged in the open spaces and creates an unbroken surface, defeating the "cutting-in" action normally afforded by a deep-cut tread.

Tire designers nowadays normally introduce an irregularity or break in the continuity of the tread design, in order to reduce noise and minimize unwanted vibration. Deep open treads that provide effective traction on snow generally lack good wearing qualities on dry roads, as compared with conventional tires. As snow tires wear, they lose their traction ability due to the loss of the deep bars or "cleats" and due to rounding of the leading edges of these cleats. This rounding of edges causes the tire to act like a worn gear and so to slip during operation. The rounding is a major reason for the tires' effectiveness in snow falling off rapidly beginning soon after the tires are put into use and proceeding until the tread is worn smooth.

Reduction of the loss of traction due to wear can be achieved by modifying the entire mass of tread rubber in a number of ways. Almost every type of material has been tried, to create a rough sandpaper-like self-renewing surface in tread stocks. Corn meal, particles of plastic, rock salt, steel chips, and many others have been tried with varying degrees of success. These particles are dispersed throughout the rubber. When the tire is operating on the road, the particles that are close to the tread surface become dislodged and fall to the roadway, leaving small open pits or cells, each with a number of edges to grip the road. New cells are continuously created by loss of the filler material, until finally the tread is worn away.

The difference in wear characteristics of normal snow tires and one make using special tread material (*Firestone Polar Grip*) was investigated. Safety was improved, but the wear life of the tread was materially reduced by use of the chips-moulded-in construction. However, the value of extra safety is beyond price, and certainly beyond the extra cost to the car owner due to a greater rate of tread wear. In this type of tread material thousands of small hollows are exposed in the tread face as the chips are dislodged from the tire. These hollows have sharp edges that provide a grip on the snow to produce better traction. It was found that the loss of these chips continually produced a sharp leading edge on all the tread bars that assisted in maintaining good tractive efficiency of the tire until the tread pattern was almost gone. The other brands and kinds of snow tires lost traction due to wear as the bars and cleats became rounded and slipped like a gear with worn teeth; the rounding effect is seen in Figure 1.

Tests showed that a winterized tire using wood chips in the tread would give around 11,000 miles of service; this is to be compared to 14,000 to 18,000 that one may expect from other brands and kinds of snow tires.

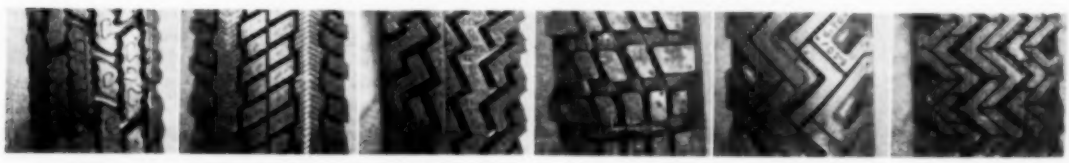
The motorist should keep to moderate speeds in driving a car on dry roads with snow tires, as the heat build-up is much faster than with conventional tires—may go so far as to ruin the tire, or even set it on fire. Snow tires are just not meant for, and must not be used for, high speed highway driving. A good safety rule is never to exceed 50 miles per hour for any long period of operation, and when the car is to be driven at high speed, to increase inflation pressures by 4 pounds above recommended pressures to reduce flexing.

Test conditions and results

Grade climbing tests were made on hard-packed snow on a 10 percent grade. The car used was equipped with a standard transmission, and the throttle was locked to give a steady speed of 2000 rpm. First gear was used, and no control except steering was made by the driver after the clutch was engaged; the driver attempted to drive the car 300 feet up the grade. The number of revolutions of the driving wheels and the time to travel the distance were recorded for five tests of each

TREAD PATTERNS OF SNOW TIRES

Open design is important in snow to provide "self-cleaning" action.



Allstate Deep Tread Traction | Goodyear Custom Suburbanite | U.S. Royal Winteride | General Wintercleat | Goodrich Silvertown Trailmaker | Firestone Town and Country

make of tire. One set of conventional tires was tested also; with these, the vehicle could not travel further than an average distance of 103 feet for five tests, and in no test was it able to travel the entire 300 feet up the slope.

Effective traction on level road covered with 8 inches of snow. The time to travel 500 feet, with the number of wheel revolutions recorded under fixed-throttle conditions, while the driver steered the vehicle on its course, was used as the basis of comparison.

Noise test. The test car was driven at speeds of 20 to 50 miles per hour on a smooth bare road surface followed by deceleration and acceleration. The tires were rated on the amount of unpleasant noise produced.

Locked-wheel stopping tests on wet and dry roads. Stopping tests were made from speeds of 20, 30, and 40 miles per hour on a wet road. The time and distance to stop were electrically recorded, using detonators firing at the road surface from the moving car, timers, and fifth wheels (for distance).

Tests on a hard-packed snow-covered road. Tests of wheel slippage at a constant speed on a snow-covered road were made during a 1030-foot run with a fixed-throttle setting and in low gear. The "percentage of effective traction" as compared with that of a conventional tire moving on a dry road was determined from the tests. Conventional tires on hard-packed snow gave about 65 percent effective traction.

Effects on fuel consumption. Tractive-resistance tests (measurement of the force required to move the car on the four tires) were made at 20, 30, 40, 50, and 60 miles per hour. The differences between tires were not great, but the *Allstate* tire was best in that it produced the least resistance to free rolling of the car.

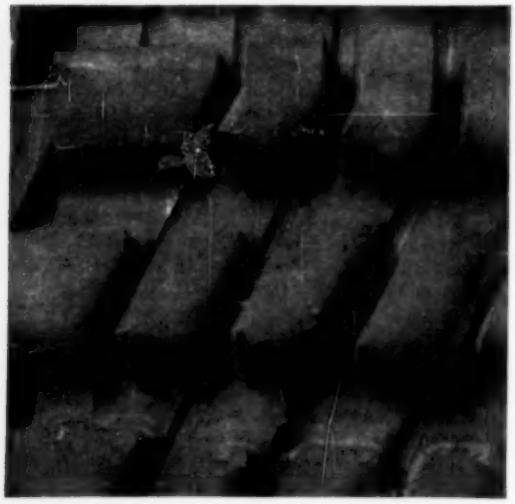


Figure 1—Note severe rounding of tread pattern edges (at low mileage) on the General tire.

Loss of traction due to wear tests. One each of four brands of tires were placed on one car, and the same brands were placed on a second vehicle. Two more automobiles were used for the remaining three brands, and a brand of conventional tire. Vehicles were run on a dry turnpike for 1000 miles, after which the tires were moved to different wheels on the same cars, followed by three more 1000-mile test periods of the same type, with rotation to other wheels at each 1000 miles. A traction test on the 10 percent grade was then made, followed by four more 1000-mile tests, after which another traction test was made. This was then followed by two more 1000-mile tests and a final traction test. The percent of traction available at the end of the 4000-, 8000-, and 10,000-mile periods was compared with new tires.

Wear tests. The number of miles of travel for the tread to wear down to the point where only 1/32nd of an inch of tread remained was determined for each tire.

Conclusions

The results of these tests made under controlled conditions showed the "winterized" tire with a tread containing plastic chips to be superior in most respects for driving in snow and on wet roads to leading brands of regular snow tires including the *Firestone* tire with the same tread design but without the "built-in" chips. One test in which the winterized tire performed relatively poorly was in rate of tread wear, as already discussed. One can expect approximately one third shorter wear life from the winterized tire, compared to the other kinds tested.

The winterized tire stopped the test vehicle from speeds of 20, 30, and 40 miles per hour in a shorter distance than any of the other tires tested, on both a wet and dry road under locked-wheel emergency conditions. The winterized tires were best in hill climbing on snow-covered surfaces, and traveling on an 8-inch snow-covered road.

No tire was given any rating for use on ice, as it was found that performance of all brands was approximately equal, and all were so poor on ice that they could not possibly serve as a substitute for careful slow driving with use of chains when the surface is smooth ice.

¶The ratings that follow are made by Consumers' Research on the basis of tests conducted by Motor Vehicle Research.

The tires tested are listed in alphabetical order within their respective groups or classes.

A. Recommended

For those who desire maximum traction even though this is obtained at the expense of about ⅓ shorter life.

Polar Grip Tread Stock (Made by Firestone Tire & Rubber Co.) For use by retreaders who are required to use the *Firestone Town & Country* tread pattern. "This tread stock is not used by Firestone on their new tires, but is available on retreaded tires, only, as sold by "Firestone Stores." (One New England manufacturer, John A. Connare, Inc., Second St., Manchester, N.H., makes new tires using the *Polar Grip* tread stock; their new tires are called *Connare Artic-ized*.) Average tread depth was 34/64 in.; tread hardness, 76 to 84. Ranked first in hill-climbing test on a hard-packed snow-covered road (there were no failures with this tire to climb the hill), first in effectiveness-of-traction test on snow-covered level road. This and the *Allstate* were the quietest tires tested, on a dry road. Effective traction on hard-packed snow, about 90%; loss of effective traction due to wear in use, about 10%. Ranked poorest in the wear test (about 11,000 miles). Consumers' Research strongly recommends that tubes be used in every case, with all retreaded tubeless tires, snow tires or regular.

A. Recommended

For those who are willing to accept less traction than available with tires using *Polar Grip* tread stock in order to obtain longer tire life.

Allstate Deep Tread Traction (Sears, Roebuck & Co.) Average tread depth was 31/64 in.; tread hardness, 67 to 71. Ranked second in hill-climbing ability (failed once to climb the test grade), third in effectiveness-of-traction test on a level snow-covered road. The *Allstate* and the tire with *Polar Grip Tread* were the quietest tested. Effective traction on hard-packed snow, about 90%; loss of effective traction due to wear in use, about 45%. Ranked third in wear test (17,000 miles).

B. Intermediate

Firestone Town and Country (Firestone Tire & Rubber Co.) Average tread depth was 33/64 in.; tread hardness, 60 to 66. Ranked fourth, with *General Wintercleat*, in hill-climbing test on a snow-covered hill (failed twice to climb the grade), fourth in effectiveness-of-traction test on snow-covered level road, third in noise test. Effective traction on hard-packed snow, about 80%; loss of effective traction due to wear in use, about 50%. Ranked fifth in the wear test (16,000 miles).

Goodyear Custom Suburbanite (Goodyear Tire & Rubber Co.) Average tread depth was 35/64 in.; tread hardness, 61 to 63. Ranked sixth in climbing test on snow-covered hill (failed three times to climb the grade) and in traction test on level snow-covered road, and fourth in noise test. Effective traction on hard-packed snow, about 80%; loss of effective traction due to wear in use, about 40%. Ranked first (best) in wear test (over 18,000 miles).

Figure 2—Close-up of Polar Grip tread shown after 200 miles of use. Note molded-in particles are removed, leaving thousands of leading edges and cells to increase traction. This tire had the same tread pattern as Firestone Town and Country.

C. Not Recommended

General Wintercleat (General Tire & Rubber Co.) Average tread depth was 34/64 in.; tread hardness, 60 to 66. Ranked fourth with *Firestone* in hill-climbing test on snow-covered hill (failed twice to climb the grade), fifth in traction test on level snow-covered road, and sixth in noise test. Effective traction on hard-packed snow, about 85%; loss of effective traction due to wear in use, about 80%. Ranked sixth in wear test (14,000 miles).

Goodrich Silvertown Trailmaker (B. F. Goodrich Co.) Average tread depth was 32/64 in.; tread hardness, 61 to 65. Ranked third in hill-climbing test on a snow-covered road (failed twice to climb the grade), second in effectiveness-of-traction test on snow-covered level road. Produced the most noise of the tires in the noise test (seventh). Effective traction on hard-packed snow, about 85%; loss of effective traction due to wear in use, about 75%. Ranked third, with *Allstate*, in the wear test (17,000 miles).

U. S. Royal Winteride (U. S. Rubber Co.) Average tread depth was 35/64 in.; tread hardness, 62 to 66. Ranked seventh (lowest) in hill-climbing test on a snow-covered road (failed three times to climb the grade) and in effectiveness-of-traction test, fifth in noise test. Effective traction on hard-packed snow, about 85%; loss of effective traction due to wear in use, about 60%. Ranked second in wear test (nearly 18,000 miles).

Christmas tree lights

(The beginning of this article is on page 2)

Miniature Lites carried the label of the Underwriters' Laboratories.

Lighting sets listed are in alphabetical order within the *A*-, *B*-, and *C*-rated groups.

Indoor, series-wired (when one goes out, they all do)

B. Intermediate

Noma Bubble-Lites, No. 508 (Noma Lites Inc., 55 W. 13 St., New York 11) $2.10. Equipped with eight special *GE* miniature-base lamps each having a colored plastic globular casing and a sealed glass tube containing a colored liquid. Bubbles rise slowly through the liquid when it is heated by the lamp. These lamps may present an element of danger in a home where there are small children (see text).

Paramount Rosette, No. 1745K (Raylite Electric Corp., Bronx 51, N.Y.) $1.40. Equipped with eight U.S.-made clear miniature-base lamps. Lamps are enclosed in removable colored plastic domes and the bulbs have plastic rings permanently fastened to their bases; replacements may often not be readily available. The rosette lamps can, of course, be replaced by standard lamps, if necessary; with these, the plastic domes and rosettes cannot be used.

Sterling, No. 1301K (Raylite Electric Corp.) 98c. Equipped with eight *GE* miniature-base lamps. Manufacturer's name not shown on box or tags.

Wards Starlight (Montgomery Ward's Cat. No. 48—147) $3.47, plus postage. String of 30 midget-base screw-in-type lamps; six spare lamps are furnished. The lamps are imported, but the country of origin is not shown. (Japanese-made according to the catalog.) If one or more lamps burn out, the remainder of the lights continue to burn (with shortened life) because, although the lamps are series-wired, an electrical connector in the base of the lamp maintains the electrical circuit past the dead lamp; however, if a lamp becomes loosened, the entire string goes out.

Figure 1—Various types of Christmas light bulbs. From left to right: midget-base non-removable, midget-base screw-in type, miniature base, candelabra base, intermediate base.

C. Not Recommended

Good-Lite, No. 40-K (Good-Lite Electric Mfg. Co., Bridgeport, Conn.) 88c. Equipped with eight Japanese miniature-base lamps.

Italian Miniature Lites, Style 435 (F A Inc., Italy) $5.95 in gift and novelty shops. Equipped with 35 subminiature lamps, which could not be removed for replacement. Bare wire near bulbs was covered by a plastic sleeve (poor construction). If one or more lamps burn out, remainder continue to burn because of an electrical connector in base of lamp. Each bulb was set in a colored plastic rosette. Bulbs showed good life on test ("guaranteed for 1000 hr. but manufacturer's name not given in adequate form, and no address appeared). Did not carry the *UL* label.

Pennant, No. 400 (Raylite Electric Corp.) 57c. Equipped with eight Japanese miniature-base lamps. Clips for fastening sockets to tree not provided. Manufacturer's name not shown on box or tags.

Indoor, multiple-wired

A. Recommended

Miller String O'Lights, No. 103 (Miller Electric Co., Pawtucket, R.I.; Sears-Roebuck's Cat. No. 49—6596) $1.77, plus postage. Equipped with seven *GE* candelabra-base lamps. Each lamp had a fiber gasket to prevent possible hazardous short circuits from tinsel, etc.

Noma Lites, No. 3010-SF (Noma Lites Inc.) $2.50. Equipped with seven *GE* candelabra-base lamps. The plug cap had two replaceable 5-amp. fuses, a good feature. As with *Miller String O'Lights*, each lamp had a fiber gasket at the socket.

B. Intermediate

Good-Lite, No. 101-K (Good-Lite Electric Mfg. Co.) $2.10. Equipped with seven *GE* candelabra-base lamps. The plug and connector were judged of only fair quality.

Paramount Twinkling Set, No. 115K (Raylite Electric Corp.) $3.79. Equipped with 15 Japanese-made candelabra-base lamps. Each lamp has a built-in flasher which turns it on and off at intervals independently of the other lamps. Standard lamps can be used for replacement, but will not be turned on and off at intervals. Spring clips of good design. The lamps had approximately the same average life as *Noma Twinkle Lites* (lamps made by GE). Plug cap was of only fair quality. Caused considerable radio interference.

Pennant 1500K (Raylite Electric Corp.) 98c. Equipped with seven Japanese-made candelabra-base lamps. Spring clips for holding string to branches of the tree were of good design and easy to use. The plug cap was judged to be of only fair quality. Manufacturer's name not shown on box or tags.

Star-Lite, No. 107 (Sold by Western Auto Associate

stores) $1.44. Equipped with seven *GE* candelabra-base lamps. The female connector and the plug cap were judged to be of only fair quality. Manufacturer's name not shown on box or tags.

Sterling 1100K (Raylite Electric Corp.) $1.79. Equipped with seven *GE* candelabra-base lamps. Spring clips of good design, same as *Pennant 1500K*. Plug cap was of only fair quality. Manufacturer's name not shown on box or tags.

Sterling 1115K (Raylite Electric Corp.) $3.79. Like *Sterling 1100K* except equipped with 15 *GE* lamps instead of seven.

Outdoor, multiple-wired (can also be used indoors)

A. Recommended

Noma Safety Plug 3005 SF (Noma Electric Corp., 55 W. 13 St., New York 11) $3.49. Equipped with seven *GE* intermediate-base lamps with rubber gaskets. Good-quality attachment plugs and connectors; male plug had two 5-amp. fuses. Clips for fastening sockets to the tree were not provided.

B. Intermediate

Noma Twinkle Lites, No. 3000 (Noma Electric Corp.) $5.15. Equipped with seven *GE* intermediate-base lamps, with built-in flasher units. Standard intermediate-base lamps can be used for replacement, but will not, of course, turn on and off at intervals. Caused considerable radio interference.

Sears Candelabra Christmas Lighting Outfit (Sears-Roebuck's Cat. No. 49—6532; manufactured by Noma Electric Co.) $1.77, plus postage. Consisted of about 8 ft. of rubber-covered wire with plug cap at one end and connector at the other. Five *Westinghouse Permacote* lamps and five sockets. Purchaser connects the sockets by setting each socket over the wire at the desired position and attaching the plastic cap, which, when locked in place, forces two sharp metal points into the wire to make the electrical connection. A rubber gasket is supplied for each lamp to prevent entrance of rain, etc.

Figure 4—Types of novelty lamps: Bubble-Lite at the left, Twinkle Lite (on-and-off type) at the right.

C. Not Recommended

Festive Lites 1907J (Manufacturer unknown) $1.40. Equipped with 7 Japanese-made lamps with rubber gaskets. Attachment plug of only fair quality.

Good-Lite, No. 250-K (Good-Lite Electric Mfg. Co.) $2.70. Equipped with seven *GE* intermediate-base lamps. Rubber gaskets needed to prevent entrance of rain and moisture were not provided. Attachment plugs judged to be of low quality.

King-o-Lites, No. 1002 (Zell Electric Mfg. Co., Inc., New York 13) $1.80. Equipped with seven *GE* intermediate-base lamps with rubber gaskets. Plug cap of only fair quality. No fastening clips provided. Manufacturer's name not shown on box or tags.

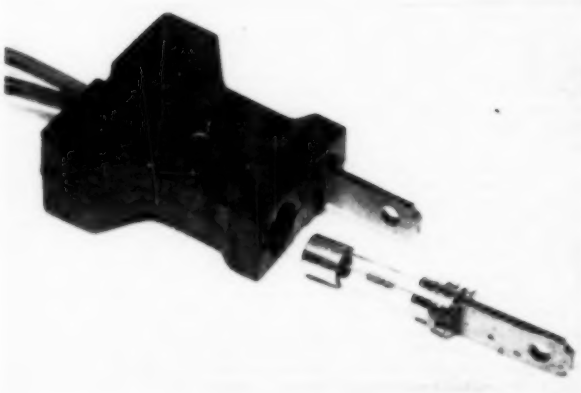


Figure 2—Well-made type of plug cap with replaceable glass-enclosed fuses.
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Figure 3—Connector plug of unsatisfactory quality. In this type of connector, brass contact strips are forced against bared sections at the end of the two wires.

Phonograph Records

BY WALTER F. GRUENINGER

Please Note: The first symbol applies to quality of interpretation, the second to fidelity of recording.

Bartok: *Five Songs* & **Kodály:** *Six Songs from Hungarian Folkmusic.* László (soprano). Bartók 927. $5. (113 W. 57 St., New York 19). This isn't everyone's dish but, if the music appeals to you, it is beautifully performed and richly recorded. AA AA

Beethoven: *Sonatas 2, 3, 8 for Violin and Piano.* Grumiaux and Haskil. Epic LC 3488. $3.98. A salon piece, a passionate work, and a great work. Elegant, graceful, charming, dramatic playing as required. Ensemble well-nigh perfect. Fine recording. AA AA

Dvorák: *Concerto in B Minor.* Rostropovich (cello) with the Royal Philharmonic under Boult. Capitol G 7109. $4.98. Dvorák's last concerto, a staple. Rostropovich plays better here than on any other record of his I have heard. But as a performer he is less than Casals at his best, as you can hear on Victor LCT 1026 which is not so well recorded. Overall, Rostropovich offers fairly rich tone and romantic playing. Good recording. A AA

Dvorák: *String Quartets Nos. 3* and *6* ("American"). Netherlands String Quartet. Epic LC 3490. $3.98. The group keeps the music moving with just enough schmalz to fit the character. Good recording, not too close in, though nasal. Experienced quartet players criticize Dvorák because his part writing merely accompanies the main melodic line, as in the *quator brilliant.* But that line is so lovely here that these works deserve occasional hearing. Highly recommended to anyone who enjoys string music. AA A

Dvorák: *Symphony No. 5.* Orchestre National de la Radiodiffusion Francaise under Silvestri. Angel 35623. $4.98. The "New World" Symphony, when not heard too often, still breathes charm and tension. But there's more of both in the performance by Toscanini on RCA Victor 1778, which is acceptably recorded. Yet, Silvestri's performance ranks among the runners-up. So does the new Reiner-RCA Victor LM 2214. The balance favors brass over violins in the Angel release. Muffled sound. The Reiner is better recorded. A B

Mendelssohn: *Midsummer Night's Dream Excerpts* & **Schubert:** *Rosamunde Excerpts.* Vienna Philharmonic under Monteux. RCA Victor LM 2223. $4.98. This tuneful, romantic music incidental to plays sounds as though the fine points that make for a superlative performance have not been mastered; whether due to lack of rehearsal time or otherwise is not known. There's nuance, of course, but not all we have a right to expect. Clean, bright recording. A AA

Mozart: *Concertos Nos. 16* and *23.* Serkin (piano) with the Columbia Symphony under Schneider. Columbia ML 5297. $3.98. *No. 23* is the better concerto, more frequently recorded, too. Serkin equals the best in *No. 23* and he comes against no serious competition in *No. 16.* Fine rapport with the orchestra. The mike pickup loses some of the orchestral detail but it is very satisfactory in other respects. There's a little humming by Serkin, too, but not enough to detract seriously. AA A

Mozart: *Quintets No. 3* and *No. 5* (K516 and K406). Griller String Quartet with Primrose (viola). Vanguard VRS 1029. $4.98. Two of Mozart's supreme chamber works, beautifully and simply played. Recorded as in a hall from a distance, creating a pleasing blend of tone. AA AA

Mozart: *Requiem.* Berlin Philharmonic, Choir of St. Hedwig's Cathedral, Soloists under Kempe. Capitol G 7113. $4.98. One of the great choral works, a Mozart masterpiece. Some conduct it with emphasis on the dramatic, others with emphasis on the lyric. Kempe chooses the latter course. Such tenderness and molding are rare. The soloists are fine, but this is Kempe's production. Spaciously recorded, though stereo reproduction on choral numbers is even better. First choice of this piece on LP's. AA A

Puccini: *La Bohème.* Stella, Poggi, etc., under Molinari-Pradelli. 4 sides, Columbia M2L 401. $7.96. This opera has been a favorite since its premiere in 1896. The performance here features Antonietta Stella who does an acceptable "surface" job, but there's nothing to challenge the drama of the Toscanini Victor LM 6006, which is less well recorded. Stereo recording of opera generally surpasses monophonic recording. A A

Rachmaninoff: *Symphony No. 3* & **Rimsky-Korsakov:** *Russian Easter Overture.* London Philharmonic under Boult. RCA Victor 2185. $4.98. Melancholy, brooding work is this symphony, and not easy to play. There's a bit more to it than brought out here. The *Overture* gets an adept performance with typical British reserve in spots that sounds rather imaginative. But the solo violin starts off shakily. Barely acceptable recording of the symphony. A B

Rossini: *Six Overtures.* Orchestre National de la Radiodiffusion Francaise under Markevitch. Angel 35548. $4.98. The "Barber of Seville," "William Tell," "La Gazza Ladra," etc., sparkle under the hand of a Toscanini. Though attractive here, Markevitch pays less attention to the ultimate nuance. Realistic recording. A AA

Sibelius: *Symphony No. 1.* BBC Symphony under Sargent. Capitol G 7101. $4.98. Lyric work reminiscent of Tchaikovsky and Wagner. Conservative, conscientious performance, and good recording. The disk ranks close to Beecham-Columbia ML 4653 and Kletzki-Angel 35313. A A

Stravinsky: *Le Sacre du Printemps.* N.Y. Philharmonic under Bernstein. Columbia ML 5277. $3.98. A ballet concerned with pagan rites, first performed in 1913 and ever since raising the dickens with ears that hear its violent rhythms and harmonies the first time. Nobody conducts this precisely like Bernstein, who is very well recorded. There's only one better choice, Monteux on RCA Victor LM 2085. A AA

Wagner: *Flying Dutchman Overture, Tristan und Isolde Prelude and Liebestod, Die Meistersinger Preludes* to Act I and Act III, *Tannhauser Overture.* Symphony Orchestra of the Bavarian Radio under Jochum. Epic LC 3485. $3.98. Popular Wagnerian orchestral pieces played with richness and full emotional impact. Warm, clean sound. AA AA

Flute Contest Music. Charles De Laney (flute). Lanier 5238. $2. (H. and A. Selmer, Inc., Elkhart, Ind.) The title may frighten some from this interesting collection of pieces by Handel, Bach, Pressar, Kohler, Godard, etc. Anyone who admires the flute is likely to enjoy this disk which is well played and recorded. AA AA

Marches in Hi-Fi. Boston Pops Orchestra under Fiedler. RCA Victor LM 2229. $4.98. Fifteen marches ranging from the *Aida* "Grand March" and the "March of the Toys" to "Colonel Bogey" and "Strike Up the Band." It's amazing how much variety you hear in these works. Played with appropriate skill and zip. Very well recorded. AA AA

Music of LeRoy Anderson, Vol. 2. Eastman-Rochester Pops Orchestra under Fennell. Mercury MG 50043. $3.98. Light symphonic music heard at Pops concerts. "The Typewriter," "Syncopated Clock," "Girl in Satin," "Belle of the Ball," and other diverting pieces. The standard in this field remains Fiedler and the Boston Pops. The present artists nearly equal them, but let's bow to the masters. Brilliantly recorded. A AA

Musical Cocktail Party with Cedric Dumont (Orchestra). Decca DL 8600. $3.98. Agreeable listening. Music in the style of Lawrence Welk. Included are polkas, waltzes, and other sprightly tunes by Strauss, Balz, Offenbach, Lehar, etc. Well recorded. AA AA

Ratings of Current Motion Pictures

THIS SECTION aims to give critical consumers a digest of opinion from a wide range of motion picture reviews, including the motion picture trade press, leading newspapers and magazines—some 19 different periodicals in all. The motion picture ratings which follow thus do not represent the judgment of a single person, but are based on an analysis of critics' reviews.

The sources of the reviews are:

Boxoffice, Cue, Daily News (N. Y.), *The Exhibitor, Films in Review, Harrison's Reports, Joint Estimates of Current Motion Pictures, Motion Picture Herald, National Legion of Decency, Newsweek, New York Herald Tribune, New York Times, The New Yorker, Parents' Magazine, Release of the D. A. R. Preview Committee, Reviews and Ratings* by the Protestant Motion Picture Council, *The Tablet, Time, Variety* (weekly).

The figures preceding the title of the picture indicate the number of critics whose judgments of its entertainment values warrant a rating of A (recommended), B (intermediate), or C (not recommended).

Audience suitability is indicated by "A" for adults, "Y" for young people (14-18), and "C" for children, at the end of each line.

Descriptive abbreviations are as follows:

adv—adventure
biog—biography
c—in color (Ansco, Eastman, Technicolor, Trucolor, Warner Color, etc.)
car—cartoon
com—comedy
cri—crime and capture of criminals
doc—documentary
dr—drama
fan—fantasy
hist—founded on historical incident
mel—melodrama
mus—musical
mys—mystery
nov—dramatization of a novel
rom—romance
sci—science fiction
soc—social-problem drama
trav—travelogue
war—dealing with the lives of people in wartime
wes—western

A	B	C		
—	2	5	**Age of Infidelity (Spanish)**	*dr A*
1	6	3	**Andy Hardy Comes Home**	*com AYC*
—	3	12	**Another Time, Another Place**	*dr A*
—	4	2	**Apache Territory**	*wes-c AYC*
—	4	3	**Appointment with a Shadow**	*cri-mel AY*
—	6	1	**As Young As We Are**	*dr A*
—	1	3	**Astounding She Monster, The**	*sci AY*
—	1	7	**Attack of the Fifty Foot Woman**	*sci A*
—	3	1	**Attack of the Puppet People**	*mel AYC*
—	4	5	**Attila (Italian)**	*hist-mel-c AY*
2	6	3	**Badlanders, The**	*wes-mel-c A*
—	3	4	**Badman's Country**	*wes AYC*
1	5	7	**Barbarian and the Geisha, The**	*dr-c AYC*
—	3	1	**Big Barrier, The (German)**	*dr-c AY*
5	8	3	**Big Country, The**	*wes-c AY*
—	2	2	**Bigamist, The (Italian)**	*com A*
—	6	3	**Blob, The**	*sci-mel-c AY*
—	2	7	**Blood Arrow**	*mel AY*
—	4	1	**Blood of the Vampire (British)**	*mel-c A*
—	5	4	**Blue Murder at St. Trinian's (British)**	*com AY*
—	3	5	**Bonnie Parker Story, The**	*cri-mel A*
1	13	3	**Bravados, The**	*wes-c AY*
—	7	2	**Buchanan Rides Alone**	*wes-c AYC*
—	4	3	**Bullwhip**	*wes-c A*
—	6	6	**Camp on Blood Island, The (British)**	*war-mel AY*
—	7	2	**Captain from Koepenik, The (German)**	*com AYC*
—	7	3	**Case Against Brooklyn, The**	*cri-mel AY*
1	12	2	**Case of Dr. Laurent, The (French)**	*dr A*
4	8	2	**Cat on a Hot Tin Roof**	*dr-c A*
—	6	10	**Certain Smile, A (French)**	*nov-c A*
—	5	3	**China Doll**	*war-dr A*
—	2	2	**Circus of Love (German)**	*mel-c A*
—	2	7	**Colossus of New York, The**	*sci-mel AY*
—	1	3	**Cool and the Crazy, The**	*soc-dr A*
—	5	5	**Cop Hater**	*cri-mel A*
—	3	4	**Country Music Holiday**	*mus-com AYC*
—	2	1	**Crazy in the Noodle (French)**	*com A*
2	1	4	**Crime and Punishment (French)**	*dr A*
3	10	3	**Cry Terror**	*mys-mel A*
—	3	3	**Cry-Baby Killer, The**	*soc-mel A*
—	3	2	**Curse of the Faceless Man**	*sci AY*
1	6	3	**Damn Yankees**	*mus-fan-c A*
—	8	—	**Dangerous Exile (British)**	*hist-dr-c AY*
—	2	6	**Dangerous Youth (British)**	*soc-mel AY*
—	5	—	**Davy (British)**	*com-c AYC*
—	2	5	**Deadly Decision (German)**	*war-dr A*
—	7	3	**Decks Ran Red, The**	*cri-mel A*
6	9	4	**Defiant Ones, The**	*soc-dr A*
—	—	10	**Desert Hell**	*mel AYC*
—	—	3	**Diary of a Bad Girl (French)**	*dr A*
—	3	4	**Dragstrip Riot**	*soc-mel A*
1	11	6	**Dunkirk (British)**	*war-dr AYC*
—	1	9	**Edge of Fury, The**	*cri-dr A*
—	4	1	**Fearmakers, The**	*mys-mel A*
—	5	6	**Fiend Who Walked the West, The**	*cri-mel A*
—	3	8	**Fiend Without a Face (British)**	*sci-mel A*
—	—	4	**Fire Under Her Skin (French)**	*dr A*
—	1	7	**Flaming Frontier**	*wes AY*
—	2	1	**Flesh and the Woman, The (French)**	*dr-c A*
3	7	2	**Fly, The**	*sci-mel-c AY*
—	1	3	**Flying Classroom, The (German)**	*com AYC*
—	3	5	**Folies Bergere (French)**	*mus-mel-c A*
—	—	4	**Forbidden Island**	*mys-mel-c A*
—	6	2	**Fort Massacre**	*mel-c AYC*
—	4	—	**Foxiest Girl in Paris, The (French)**	*cri-com A*
—	3	3	**Frankenstein—1970**	*sci-mel A*
1	6	4	**Fraulein (German)**	*war-dr-c A*
2	11	1	**From Hell to Texas**	*wes-dr-c AYC*
—	2	6	**Gang War**	*cri-mel A*
—	3	5	**Ghost of the China Sea**	*war-mel AYC*
—	2	2	**Giant from the Unknown**	*sci-mel A*
—	6	—	**Gideon of Scotland Yard (British)**	*mys-mel-c AYC*
7	9	—	**Gigi**	*mus-dr-c A*
—	9	7	**Goddess, The**	*soc-dr A*
1	7	10	**God's Little Acre**	*dr A*
—	1	2	**Golfo (Greek)**	*dr A*
—	4	1	**Guendalina (Italian)**	*dr A*
—	5	1	**Gun Runners, The**	*mel AY*
1	8	2	**Gunman's Walk**	*mel-c A*
—	4	2	**Gunsmoke in Tucson**	*wes-c AY*
1	11	3	**Harry Black and the Tiger (British)**	*mel-c A*
—	9	2	**Haunted Strangler, The (British)**	*cri-mel A*
—	5	2	**Hell Drivers (British)**	*mel A*
—	1	2	**Hell Squad**	*war-mel AY*
—	3	15	**High School Confidential**	*soc-mel A*
—	3	1	**High School Hellcats**	*mel A*
1	3	1	**Home Before Dark**	*dr A*
—	3	4	**Hong Kong Affair**	*mys-mel AYC*

A	B	C		
—	3	2	**Hong Kong Confidential**	*mys-mel A*
2	8	2	**Horror of Dracula (British)**	*mel-c A*
—	2	1	**Horse and Carriage, The (Greek)**	*dr A*
—	3	1	**Horse's Mouth, The (British)**	*com-c AY*
—	4	3	**Hot Car Girl**	*soc-mel A*
—	2	2	**Hot Rod Gang**	*mel A*
1	7	9	**Hot Spell**	*dr A*
—	5	—	**Houseboat**	*com-c A*
—	4	—	**How to Make a Monster**	*cri-mel AY*
—	12	5	**Hunters, The**	*war-dr-c AY*
—	1	2	**Hurdy Gurdy, The (Greek)**	*com AY*
—	6	3	**I Bury the Living**	*mys-mel A*
—	5	2	**I Married a Monster from Outer Space**	*sci AY*
—	6	3	**I Married a Woman**	*com AY*
1	11	3	**Imitation General**	*war-com AY*
—	1	2	**In the Money**	*com AY*
2	14	1	**Indiscreet**	*com-c A*
—	7	—	**Inspector Maigret (French)**	*mys-mel AY*
—	2	6	**Island Women**	*mus-mel A*
—	2	3	**It! The Terror from Beyond Space**	*sci AY*
—	3	—	**Joy Ride**	*mys-mel AY*
2	8	2	**Kathy O'**	*com-c A*
2	11	5	**Key, The**	*war-mel A*
—	2	5	**Kill Her Gently (British)**	*mys-mel AY*
—	9	6	**King Creole**	*mus-mel A*
1	10	7	**Kings Go Forth**	*war-dr AY*
—	10	6	**La Parisienne (French)**	*com-c A*
2	3	—	**Last Hurrah, The**	*nov AY*
—	7	3	**Last of the Fast Guns, The**	*wes-c AYC*
—	8	1	**Law and Disorder (British)**	*cri-com A*
1	9	6	**Law and Jake Wade, The**	*wes-c AYC*
—	5	8	**Left Handed Gun, The**	*wes A*
—	4	4	**Let's Rock**	*mus-com AYC*
—	5	4	**Life Begins at 17**	*dr A*
—	12	4	**Light in the Forest, The**	*hist-dr-c AYC*
—	1	2	**Lily of the Harbor (Greek)**	*dr A*
—	7	2	**Lineup, The**	*cri-mel AY*
—	10	1	**Littlest Hobo, The**	*dr AYC*
—	—	10	**Live Fast, Die Young**	*cri-mel A*
—	8	1	**Lone Ranger and the City of Lost Gold, The**	*wes-c AYC*
—	4	1	**Lovers and Thieves (French)**	*cri-dr A*
—	4	6	**Lucky Jim (British)**	*com AY*
—	4	4	**Machine Gun Kelly**	*cri-mel A*
—	1	9	**Mam'zelle Pigalle (French)**	*com-c A*
—	6	4	**Man in the Raincoat, The (French)**	*cri-com A*
—	7	3	**Man of the West**	*mel-c A*
—	8	2	**Maracaibo**	*mel-c A*
4	10	3	**Matchmaker, The**	*com AY*
2	11	5	**Me and the Colonel**	*war-com A*
—	—	3	**Menace in the Night (British)**	*mys-mel A*
—	6	4	**Mitsou (French)**	*com-c A*
—	—	4	**Money, Women and Guns**	*wes-c AYC*
—	5	—	**Monster on the Campus**	*sci AY*
—	5	10	**Naked and the Dead, The**	*war-dr-c AY*
—	11	6	**Naked Earth, The (British)**	*mel A*
—	4	3	**Never Love a Stranger**	*mel A*
—	7	3	**Night Ambush (British)**	*war-mel AY*
—	1	4	**Night Heaven Fell, The (French)**	*mys-mel-c A*
—	—	4	**Night of the Demon (British)**	*mys-mel A*
—	3	7	**No Sun in Venice (French)**	*mel-c A*
1	12	3	**No Time for Sergeants**	*war-com AYC*
—	—	4	**Notorious Mr. Monks, The**	*mel A*
—	3	1	**Of Life and Love (Italian)**	*dr A*
7	3	5	**Old Man and the Sea, The**	*dr-c AY*
—	2	6	**Once Upon a Horse**	*wes-com AY*
—	7	7	**Onionhead**	*war-com A*
—	1	3	**Pagans, The (Italian)**	*hist-mel A*
—	5	2	**Party Crashers, The**	*mel AY*
2	5	1	**Pather Panchali (India)**	*dr AY*
1	4	1	**Perfect Furlough, The**	*war-com-c A*
—	4	4	**Poor but Beautiful (Italian)**	*com A*
—	3	1	**Premier May (French)**	*dr AY*
—	5	2	**Quantrill's Raiders**	*wes-c AYC*
—	4	1	**Queen of Outer Space**	*sci-c A*
—	4	9	**Raw Wind in Eden**	*mel-c A*
—	2	1	**Rawhide Trail, The**	*wes-mel AYC*
3	13	2	**Reluctant Debutante, The**	*com-c AY*
—	6	3	**Return of Dracula, The**	*mel A*
—	5	4	**Revenge of Frankenstein, The (British)**	*sci-mel-c AY*
—	7	2	**Ride a Crooked Trail**	*wes-c AY*
—	6	—	**Robbery Under Arms (British)**	*mel-c AY*
—	10	3	**Rock-a-bye Baby**	*mus-com-c AYC*
—	2	1	**Rocket from Calabuch, The (Italian)**	*com AY*
—	10	4	**Rooney (Irish)**	*com A*
2	3	4	**Roots of Heaven, The**	*nov-c A*
—	4	5	**Rx Murder (British)**	*mys-mel A*
—	—	3	**Sabu and the Magic Ring**	*adv AYC*
—	7	2	**Saga of Hemp Brown, The**	*wes-mel-c AYC*
—	—	3	**Secret Place, The (British)**	*cri-mel A*
—	2	2	**Senechal the Magnificent (French)**	*com A*
—	—	3	**Seven Guns to Mesa**	*wes A*
—	3	1	**Seventh Seal, The (Swedish)**	*dr A*
—	—	3	**She Demons**	*sci-mel AY*
—	3	2	**She Played with Fire (British)**	*mys-mel A*
5	10	—	**Sheepman, The**	*wes-c AYC*
—	6	2	**Showdown at Boot Hill**	*wes AY*
—	8	2	**Sierra Baron**	*wes-mel-c AYC*
—	3	1	**Smiley Gets a Gun (British)**	*mel-c AYC*
1	8	3	**Snorkel, The (British)**	*cri-mel AY*
—	5	1	**Sorcerer's Village, The**	*doc-c A*
4	7	4	**South Seas Adventure**	*trav-c AYC*
—	5	4	**Space Children, The**	*sci AYC*
—	4	4	**Space Master X7**	*sci AY*
—	2	5	**Spy in the Sky**	*mys-mel AYC*
—	4	1	**Step Down to Terror**	*cri-mel AY*
—	2	4	**Suicide Battalion**	*war-mel AY*
2	7	7	**Tale of Two Cities, A (British)**	*nov AYC*
—	—	3	**Tank Battalion**	*war-mel A*
—	6	6	**Tank Force (British)**	*war-mel-c AYC*
—	4	5	**Tarzan's Fight for Life**	*adv-c AYC*
—	2	2	**Teenage Caveman**	*fan AY*
5	5	7	**Ten North Frederick**	*dr A*
—	2	3	**Terror in a Texas Town**	*wes AY*
—	4	3	**There's Always a Price Tag (French)**	*mys-mel A*
—	3	7	**Thing That Couldn't Die, The**	*cri-mel A*
—	6	7	**This Angry Age**	*dr-c A*
—	4	5	**Thunder Road**	*cri-mel A*
—	4	4	**Thundering Jets**	*war-dr AYC*
—	4	8	**Too Much, Too Soon**	*biog A*
—	3	4	**Toughest Gun in Tombstone**	*wes AYC*
—	4	2	**Truth About Women, The (British)**	*com-c A*
—	6	—	**Tunnel of Love, The**	*com A*
1	4	7	**Twilight for the Gods**	*dr-c A*
—	6	4	**Uncle Vanya**	*dr A*
3	8	6	**Vertigo**	*mys-mel-c AY*
—	—	5	**Vicious Breed, The (Swedish)**	*soc-mel A*
—	—	3	**Viking Women and the Sea Serpent**	*adv AY*
3	8	7	**Vikings, The**	*hist-dr-c A*
—	6	1	**Villa!**	*biog-c AY*
—	4	6	**Violent Road**	*mel AY*
—	9	1	**Voice in the Mirror**	*soc-dr AY*
—	3	2	**War of the Colossal Beast**	*sci-mel AY*
—	1	6	**War of the Satellites**	*sci AY*
10	7	—	**White Wilderness**	*doc-c AYC*
—	7	3	**Whole Truth, The (British)**	*cri-mel AY*
—	2	2	**Wife for a Night (Italian)**	*mus-dr A*
—	7	1	**Wild Heritage**	*wes-c AYC*
—	7	8	**Wind Across the Everglades**	*mel-c A*
1	3	4	**Windom's Way (British)**	*war-mel-c AY*
—	4	4	**Wink of an Eye**	*mys-mel A*
—	1	6	**Wolf Dog**	*mel AYC*
—	1	3	**Wolf Larsen**	*mel A*
—	9	2	**Your Past is Showing (British)**	*com AY*

The Consumers' Observation Post

(Continued from page 4)

UPHOLSTERY FABRIC OF LOW-PRICED ACETATE FRIEZE is causing numerous consumer complaints. Furniture men report that the poor-quality fabric is giving insufficient wear and producing great dissatisfaction. They suggest that the furniture producers find a replacement fabric that will give longer life in service.

* * *

MANY TEENAGERS HAVE VERY POOR EATING HABITS. In fact, one nutritionist has pointed out that teenage girls are the worst-fed group of the population; they have irregular eating habits and eat the wrong types of food. Part of the difficulty is their fear of getting fat. Another nutritionist suggests that dietary deficiencies may have something to do with the many symptoms suffered by women, including fatigue, emotional instability, and poor appetite. Dr. Elvehjem, biochemist, and president of the University of Wisconsin, warns against the overconsumption of single food items because of a special liking for them, and points out that good health depends on the combination of a number of different foods that should be included in the daily diet.

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KITCHEN POTHOLDERS should always be dry when used to lift hot pans. Wet holders or even slightly damp cloths can give a bad steam burn when used to remove hot casseroles and pans from the oven, points out an engineering publication.

* * *

IF A MANUFACTURER GUARANTEES HIS PRODUCT, he can, if his customer is harmed, be held legally accountable if it does not measure up to the advertising claims. That was the gist of an Ohio Supreme Court decision in the case of a women who sued for $30,000 damages on the charge that a permanent-wave company warranted in its ads that the permanent was "very gentle." She claimed she lost almost all her hair from use of the product. The company's defense that its advertisement was not a warranty was not accepted by the court. The Ohio court held: "The manufacturer ought to be held to strict accountability to any consumer who buys the product and later suffers injury because the product proves to be defective or deleterious."

* * *

THERE ARE NO OFFICIAL STANDARDS at present for peanut butter. Although consumers would logically expect peanut butter to be made by grinding roasted peanuts, with possibly a little salt added, there are a number of other items being included in the product besides hydrogenated peanut oil considered by some researchers to be nutritionally undesirable. Some firms have added small amounts of glycerine to retard oil separation, others have added glucose or honey. According to George P. Larrick, Commissioner of Food and Drugs, a product identified as peanut butter was picked up by the Food and Drug Administration that contained hydrogenated cottonseed or soybean oil plus artificial flavor. (Could he have had in mind something called Jif Peanut Butter made by Procter & Gamble, of which the ingredients declared on the label are: roasted peanuts, hydrogenated vegetable oil, honey, corn syrup, dextrose, salt, artificial flavor?) Obviously this would be considered a substandard product by discriminating consumers. As we have previously reported, many consumers prefer the good old-fashioned peanut butter made with ground roasted peanuts, perhaps a little added salt, and nothing else. In addition to the brands listed previously, we are happy to include the following sent by interested subscribers: Columbus, Ohio, Capitol Brand (Andrus-Scofield Co.); Oakland, California, The Food Mill, 3033 MacArthur Blvd.; Seattle, Washington, Old Fashioned Peanut Butter (Rex F. Adams Co., 2414 East F St., Tacoma, Washington); San Francisco, California, Person's Honey & Nutshop, 1175 Market St.

WHERE TOILET SOAP has been found to be a cause of skin irritation, the use of the new synthetic toilet bars is recommended. One subscriber, however, points out that he is apparently sensitive to synthetic detergents, since he found that one particular syndet bar produced an uncomfortable, inconvenient, and often embarrassing, itching of his skin that disappeared when he returned to the use of toilet soap.

* * *

MORE AND BETTER AUTOMOBILE MECHANICS are needed to cope with the intricacies of the modern automobile. That was the comment from a Philadelphia automobile dealer who suggested that every car owner should study carefully the instruction manual that comes with each new car in order to practice some preventive measures to avoid the need for servicing and to be equipped to tell the serviceman just what requires attention. He pointed out that in shopping for a new car the prospective purchaser should find out whether a lower price offered by some particular dealer also provided for less service, when it is needed.

* * *

COMMERCIAL MEAT TENDERIZERS were seldom used in Montana homes, and several people questioned in a survey by the Agriculture Experiment Station reported that they did not like the flavor of tenderized meat.

* * *

CONSUMERS SHOULD COMPLAIN LOUDLY AND OFTEN about shoddy or poor merchandise. According to Professor Jules Labarthe, of Carnegie Institute of Technology, the average consumer is all too likely to shy away from making a justified complaint. In a speech last July, Professor Labarthe reported that complaints by only one or two customers often alerted a manufacturer to a flaw or weakness in the fabric or construction of a garment and put him on notice that users were likely to be dissatisfied with the product. He held that it was consumers' responsibility to inform a retailer or manufacturer when they found something seriously wrong with a purchase.

* * *

BE CAREFUL IN EXPERIMENTING with the new three-terminal stereo cartridges. The "do-it-yourself" hi-fi fan who is converting his high-fidelity system to stereo should remember that under certain conditions there is a possibility of receiving severe shock in working with a three-terminal stereo cartridge where an ac-dc radio-phonograph combination or television set is used as a second channel. As High Fidelity Magazine points out, the three-terminal cartridge has one ground terminal which is common to both channels. It is possible that the other components may be energized through the common ground on the stereo cartridge, depending on which way the house-current attachment plugs are turned when they are connected to the 120-volt lines. Touching the chassis might in some circumstances give a lethal shock.

* * *

NYLON HAIR NETS have sometimes caused an irritating rash on the skin. The areas involved are the nape of the neck, the hairline on the forehead, and behind the ears. According to a study in the British Medical Journal, 27 cases of this type were collected within 18 months. In one case, the rash was due to the rubber band in the net; in all others the sensitivity to the dye used appeared to be the cause of difficulty.

* * *

TRANSPARENT POLYETHYLENE GLOVES that come in a roll like paper toweling are now available for home use. One brand called Handgards, consisting of 48 polyethylene gloves (sizes small, medium, and large are available), sells for $2.95 (plus shipping charges) at Hammacher Schlemmer, 145 E. 57 St., New York 22, N.Y. The gloves are easy to put on and take off and do not cling like rubber gloves. They are particularly useful for dirty jobs, such as cleaning the oven, dyeing clothes, working on the family car, or replacing typewriter ribbons. They are thin, and do puncture easily, and so will not stand up nearly as well under severe use as rubber gloves. For laboratory use, they are available at a price somewhat lower from the American Industrial & Scientific Co., Los Angeles 64, California.

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NOTE: For list of recent reprints from Consumer Bulletin and list of emendations to Consumer Bulletin articles, see page 91

SNOW TIRES

BY ANDREW J. WHITE, DIRECTOR
MOTOR VEHICLE RESEARCH

MANY MOTORISTS who live in the northern states, where snow and ice cause problems in winter driving, and who do not want to be burdened with the task of repeatedly installing and removing tire chains have found that snow tires will often serve as a fairly satisfactory and much less bothersome substitute. But the consumer must bear in mind that even the best of these special tires do not provide sufficient advantages over conventional tires to warrant any relaxation of care or caution when driving on slippery surfaces. *They are not an effective substitute for tire chains in difficult road conditions* involving hard-packed snow or ice.

The problem of providing traction through snow and on icy roads is one that tire engineers have been trying to solve for a number of years, and they have evolved a great variety of tire designs as a result of their efforts. The new tires are for the most part what might be termed conventional snow tires, and they differ only in tread design. Some kinds, referred to as "winterized" tires, have small particles of materials of various sorts imbedded or dispersed in the tread rubber, fine cuts or lacerations in the tread, or utilize a "honey-comb" type of tread stock.

Snow tire tread designs are known as mud-snow or lug types; these are generally characterized by deep treads, and a variety of studs, bars, knobs, or chevron patterns and other coarse large patterns. Because of the variety of such tires and the conflicting and often highly exaggerated claims made for them by manufacturers and dealers, motorists are understandably confused as to the degree of performance these tires will provide under winter driving conditions.

One must at all times remember that all snow tires are the results of compromises, and no one brand of snow tire can fully satisfy the requirements that would be demanded of the ideal snow or winter tire. When a tire excels in one feature, it is usually lacking in one or more other features. The least noisy tire on a dry road may have limited pulling ability in snow, and the tire that provides excellent traction in snow may be noisy or show rapid tread wear on dry roads. The motorist must therefore select the tire that comes closest to having a good proportion of most features that must be present in a useful snow tire. One very important question is the loss of traction in snow (ability to propel the car well up a snowy hill, for example) due to wear in use of the tire.

Ice a very different problem

It would be better if more motorists became resigned to the fact that ice is something special, having devastating effects on the tires' grip on the road. Unfortunately, water is a lubricant of rubber, and, if there is a film of water on the ice between the tire and the road, the tendency to skid is increased considerably.

Snow tires, or any other tires, indeed, have only poor tractive ability on ice, and motorists should not assume that one make of tire is much better than another under icy-road conditions. Any motorist will be much better off driving very slowly on ice unless his car is equipped with well-designed tire chains, preferably of the "bar" or tooth type. With chains on, he must drive slowly on bare surfaces to spare his chains.

Snow tires need good tread flexibility, to enable them to conform to irregularities of snow and ice and so give better traction. The greater the number of bars, knobs, chevrons, and sypes (a variety of cuts or slits in the tread surface), the greater the traction, *provided these features function*. With too many of any sort of bars or knobs in a tire

(*Continued on page 27*)

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